MIND IN MATTER.

MIND IN MATTER:

A Short Argument

ON THEISM.

BY

THE REV. JAMES TAIT.

> "And can there be who doubt there is a God,
> And life eternal! . . . Show me some well-
> wrought work
> Of Matter or of Mind; though you produce
> No author, I conclude that such there was,
> Or this had never been, and give him praise."
>
> COWPER.

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PREFACE.

The following short treatise originated in a dissatisfaction felt by the writer with the ordinary treatment of the points involved. The time has arrived when, in the judgment of many, a radical handling of the whole subject of materialism must, and, it may possibly be added, can be undertaken. The progress of knowledge in all directions makes it possible to examine Nature at the foundations, and to detect where Mind has interposed, step by step, in its arrangements.

The author aims at presenting a "bird's-eye view" of the subject, rather than at saying everything that might be said. As far as possible, the scaffolding has been kept out of view, and the subject-matter contracted to the utmost limit on this account, and for the further reason that extended works on such a subject are in a great measure useless, because never read. An argument in several branches—in order to *tell*—must be kept in unity of view. An epitomised presentation, therefore, alone affords the conjoint aspect on which a full impression depends. It is, moreover, paying the truth a poor compliment to require unlimited space in defending it. The truth will demonstrate itself by its own light, if correctly and pointedly stated.

In conclusion, the author would only say, that his brief pages will not have been written in vain, if they serve to remind one bewildered soul that, after all said and surmised, the Lawgiver still stands, immutable, eternal, above His own laws—that the Creator is not buried beneath His own creation. Against the Rock of Ages human conjectures may dash and surge—they cannot overthrow it.

FITZROY, ONTARIO, CANADA,
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INTRODUCTION.

In the discussion of Materialism, an obstacle greater than ordinary presents itself. The contestants cherish for each other an ill-concealed contempt, perhaps not altogether unmerited on either part. The Theologian, who generally conducts the argument on the one side, is not a scientist, and the "obduracy" of the scientist is supposed to originate in practical unacquaintance with theology. If his opponent were a competent judge of matter and its forces, it is supposed he would find in them a satisfactory account of things. On the other hand, the Materialist will not put the faith to its only infallible test.

Divinity, on one side, is an experimental science. The mind of the builder does not lurk among the bricks and mortar between the walls and roof of the building. It betrays itself in the relation of part to part, and by the general finish. The Divine Mind is not the substratum of nature — the "absolute" of science; it is the Creator of the absolute. His existence is indicated by the nature and relations of matter. As a Person, He is accessible. The faith of the theist is not a mere conclusion resting on a logical process. It is a truth impressed by the self-revealing power of God. He who created the instruments by which human spirits communicate, can penetrate the seat of conviction and demonstrate Himself. Conscience is a sky-light through which He can read thought, and speak in tones of anger or of affection.

Neglect of the direct experiment is more inexcusable than at first appears. Mind can never free itself from secret intimations of a Divine existence. This is illustrated by frequent reactions from the extreme of scepticism to superstition. In every age, dread of a Supreme Being has filled the world with awe. History cannot be annihilated by calling it superstition, nor does Materialism necessarily abolish God. If a small parcel of organised matter in the range of experience beget a mind capable of grasping the universe—and in some specimens of setting the world on fire—what may it not beget on the universal scale? The *anima mundi* of the ancients was a spirit bearing a relation to the world, not unlike that which the soul occupies to the body. In syllogism the argument will stand thus: The body is an organism, the world is an organism; the body generates mind, the world generates mind. The reasoning is not conclusive, nevertheless it has countenance in the fact that the most simple conscious forms have nerve-matter, but no nervous system. It is promptive of serious reflection that some of the greatest thinkers of past ages accounted in such a way for the manifestation of Mind in providence. If the spiritual birth-piece of matter on the larger scale bear a resemblance to spirits begotten by the same substance on the smaller, the *anima mundi* may be a being both disposed and able to give a good deal of trouble. The mere suggestion may induce a generous attention to arguments in behalf of a Deity, for whom a more exalted nature is claimed.

Which is the ultimate fact, Mind or Matter? The question comes clamantly to the front to-day, as it has come again and again in the past. This means that the conclusive reply has not been made. At the same time, the relative place of the questioner and the questioned is not to be overlooked. The latter holds the entrenched position. Faith in ultimate Mind is the normal view. Material objects are understood, because lines of thought run through them in all directions. There are *signs* of mind in a locomotive—there is no mind in the locomotive itself. There are *signs* of mind multiplied by infinity in nature, but there is no *mind* in nature itself. Nature is a vast exhibition of concrete ideas. Probably nothing but thought, or its product, can awaken thought. If Matter arouses consciousness, it does so as the product of Mind. In looking out on the world, the conviction is confirmed. The varieties of animal and vegetable life, each presenting a multitude of specimens, suggest the idea of "factory products"—objects owing their existence to the thought of another. Each group also forms a picture more realistic than the masterpiece of an artist.

When the positivist demands acceptance of the phenomenal as the ultimate, the position is felt to be inadmissible. The world is filled with adaptations. The bodies of all the larger animals are moved by cords as really as the yards of a ship. A star is without mathematical knowledge, but there is mathematical knowledge evinced in the position it occupies—in its weight, and in its velocity.

There is wise arrangement in the seasons, but no wisdom in the sun, nor in the orbital motion of the earth. There is no benevolence in the bosom of a cloud, in the sunshine, nor in the heart of a fruit tree—there is unmistakable benevolence in the purposes they serve in the world. The mind rests only when it has found the concrete source of benevolent intention. Nor by reasoning back one step are we compelled to take another and another. *Mind* is the unknown quantity sought; when mind is found, the conclusion is reached.

At an early date the *vis inertia* of matter was recognised. Matter is powerless to move itself, equally powerless to arrest motion. Even the lower animals are startled by sudden motion, and seem to put the question, Is it Mind? "The motions of matter in the world of life," we are told, "its flight in the winds, planets, and comets, filled the imagination of the ancients with spirits who were placed as governors of the world." The statement is only partially correct, for faith in *one* God was the primal position. Faith in a multiplicity of gods originated in the "substratum," or absolute philosophy revived by modern pantheism. It had its starting-place probably in the unknowable "god of science," who comes to consciousness in the individual. Nevertheless, motion, as well as matter, evidences Mind.

Force, as known by science, antagonises the positivist doctrine of antecedence and consequence. If the idea of "cause" has its origin in conscious Will, the material confirmation is not to seek. The modifications of matter are produced by vibration. Ether is the belting of the Universe. When the sun awakes nature, in spring, to living motion, it is not as a single and separate antecedent, but by communicating mediately an unending series of powerful shakes. The correlation of the forces evinces intelligent coordination. Each force is in turn the pinion and driving-wheel of every other. By their mutual action, nature is a system, and not a multitude of isolated bodies. The intelligence in motion is seen in the planets and their satellites. Not impelled by gravity, their movements are carefully calculated to counteract gravity.

Nature in its various aspects is an instrument of Mind, revealing itself to mind. What a book is to the reader, nature is to the thinker. Apart from mind discovered wherever thought is directed, the world would present a labyrinth of insoluble puzzles, incomprehensible as an unknown tongue. Only when "forms of mind" appear in obscure natural objects do difficulties disappear. The categories of Aristotle, suggested by the point of view of matter, are as truly forms of mind as are those of Kant. Generalisation in its material basis involves the very laws that operate in our own minds. The sum-total of things presented in the Universe is the gigantic effort of a Spirit to reveal Himself. The spirituality of God is evidenced by His invisibility. That He is a spirit accounts for His invisibility; that He is invisible is accounted for by His spirituality. It is unfair to complain that a spirit is unseen. To know Him requires a faculty related to spirit as touch is to matter—faith. Conscience is the initial of such an organ, possessed in some degree by all. It substantiates the existence and moral character of God;

but His wisdom, power, and goodness, in their comprehensive nature, would remain, without an objective revelation, comparatively unknown.

A spirit has advantages and disadvantages. Among advantages are—oversight from secret places of observation, and power of action everywhere, himself unseen. Among disadvantages are—the possibility of being altogether overlooked, or even unknown. Direct revelation of a spirit can never rise above self-assertion in the conscience: one made by works addressed to the senses and reason amounts in comparison to knowledge. In judging of men, acts form an incomparably higher standard than self-representation. By inspiration, spirits might be made cognisant of the unlimited Power, Wisdom, and Goodness of God; the creation affords ocular demonstration on the subject. If the Universe was made to meet a crisis in the history of intelligences, creation will fall into line with other miracles. Nature and Inspiration are the complement of each other. Inspiration alone would produce Faith, but without the roundness and completeness of Knowledge. Thus, the study of nature can never be dispensed with.

As in the higher education, the investigating of the properties of lines, spaces, and cubes, is an instrument of mental training, so in nature mind is educated by physical knowledge. The function of the body is thus apparent. Only by a delicately constructed material organisation can mind "contact" with matter. The body is a case of tools and of tests, whereby Mind may operate upon Matter and verify its demonstrations. The nervous system is the brain extending itself in different directions to the point of contact. Neither the brain nor the nerves, however, feel. When a nerve is severed between the place of contact and the brain, it is senseless; when it is not severed, feeling is at the place of contact, and not in the brain. *Mind* can present itself at the periphery; the *brain* cannot, because conditioned by physical law.

The transition from feeling to externality is instantaneous in all the senses. A piece of sealing-wax, endowed with consciousness, would feel the impression alone; the immaterial mind, by the law of intelligence, recognises also the stamp. Although universally felt to be so, the explanation is made difficult by a rooted material conception of mind. A broad distinction must be made between mere feeling and intelligence. Intelligence grasps the cause of consciousness, and associates with it the idea of substance. The very foreignness of matter at once demonstrates its externality, and establishes its outcast position. A mental cause is felt within; a material one, by its infinite contrast to mind, is felt without. That touch alone reveals matter, is a groundless assumption. "Impenetrability" is supposed to announce externality by arrested motion. A conception of matter, however, must precede the conception of motion. That matter is not a creation of the percipient mind, is evident from the recognition of form and design. To the idealist who imagines himself the creator of every complicated piece of machinery on which he gazes, the reply must be—"Incompetent!" There are inventors. The complicated designs of nature also constitute an evidence of extant existence. The Universe is an immense hieroglyphic, revealing by peculiar markings the characteristics of an Infinite Mind. The ever-recurring question is, Has the Creator buried Himself beneath the monument raised to reveal Him? Has the Universe become His mausoleum?

PART I.

THE INORGANIC WORLD.

MATTER.

In unanalytical ages nature was contemplated as a casting. Shapes were traced by the eye, and pointed out in triumph as formations by a mould. For centuries the argument was little more than a repetition of the exclamation: "Look at organisms, and deny that there are marks of a mould upon them." The reply came back with equal uniformity: "No! these things were not made—they grew." In the present age, a more radical line of thought is cast through the subject. The careful study of atomic properties, as revealed by chemistry, has put the root-idea of things within grasping distance. The infinite divisibility of matter afforded no starting or resting-place for thought. A thing, whose chief characteristic is the capacity of unlimited division, can only be a clod. A faith, whose fundamental article is creation, must seek for traces of creative wisdom in the materials of the Universe. Wisdom may be displayed in the "collocations of matter," and still greater wisdom in successful efforts with uncongenial materials; but, if the material itself has been created, it will bear traces of skill, striking as those displayed in the purposes to which it has been applied.

An atom, it may be supposed, is the smallest amount of matter, in form, that infinite skill can create. The dynamical theory fails to explain the contrast in atoms. It fails also to account for stable combinations. When the force compelling chemical combination is withdrawn, what is to prevent the rebound to isolation? There must be the grasp of articulation.

Matter is not an ultimate; its elements bear marks of design. Examined by the light of modern science, its root-idea is, substantially, the algebraic one of combinations. A few elements combine in a great variety of ways. This is nature's working idea. The ancient belief in four elements is remarkable, as the infinite variety of combinations would suggest a Chinese alphabet, rather than an Arabic one. At present, the unlimited substances in nature are supposed to be built up by sixty-four elements. The method commends itself to mind as one of its own "forms," by bringing nature into line with supreme works of human genius. The inventor of letters had the following objects in view: To reduce sound to its simple elements, to represent the elements to the eye, and to make the signs by their combinations represent the words of a language. The signs employed to express sound are mental creations, and such obviously are also the elements of matter. The object of letters is to give visibility to thought; the object of atoms to give visibility to the Divine Thought. Words express things; atoms constitute the things expressed. If words suggest ideas, things involve them. By the atomic method elements are movable, as type in the hands of a compositor; they are in command of the manipulator, and of the magic power of organisms. Apart from this plan, nature would be beautiful, indeed, but stereotyped as a work of art, instead of a kaleidoscope giving form to endless varieties of loveliness and utility.

When matter is examined from other points of view, such as number, weight, and mechanical skill, the same result is obtained. No prescription of a physician was ever made with more care in the balancing of ingredients. Some elements exist in infinitesimal, others in almost unlimited, quantities; and the proportions have a striking relation to use. The elements forming a majority of useful structures exist in great abundance. This would be a truism, if the world were a mass of atoms mechanically combined. Quantity and combining-power are carefully proportioned. In amount, oxygen probably equals all the other elements together, and it unites chemically with every other except one. Could oxygen change places quantitatively with any other ingredient, the universe would become a heap of refuse. Silicon and aluminium, again, are the base of soils; they occur in large amounts, and present themselves just where needed. Carbon is another largely existing element, which, by its power of appropriating and combining with the elements that form living structures, vegetable or animal, constitutes the base of life. Could it change places with cæsium, for example, organisms would disappear from the earth. The abounding elements have all reference to the object of creation—life. No commissariat-supplies were ever prepared with more attention to necessity.

Weight is the most general fact in chemical combination.

The elements unite in fixed proportions, and the law of weight running through the gamut of chemistry is determined by atomic weights. If atoms were made visible by art, they would present themselves as immense stores of particles, the individuals of each species identical in size, shape, and density, like assorted types. There are uniformities, also, in chemical affinities, revealing lines of thought, and making a limited number of formulæ possible. What typical forms are in the region of life, therefore, proportional combinations are in chemistry. Mind in its various operations reveals itself by converting an idea into a principle.

A similar conclusion is reached from the point of view of mechanism. Art consists in adapting and finishing. As a work of art, nature is peculiar. A mechanic fits his materials to occupy one fixed place. Certain parts of factory products are adapted to fill certain identical positions in all articles of the same kind. Atoms are fitted to an unlimited number of positions, and in each case the adaptation is complete. It is, in fact, their extraordinary versatility and perfection of function that suggest the doubt whether they are results of skill. Matter is supposed to be greater than Mind. Material ultimates betraying wonderful skill may exist, but not an ultimate Mind pregnant with the skill itself. The purposes served by atoms appeared to Leibnitz so wonderful that he called his "monads" *minds*. It is because they are not "minds" that they must be the *works* of mind. The stones of the builder never put themselves into shape, nor have the little stones of the great Architect.

When closely examined, everything points to Mind as the Ultimate.

As evolution generally takes the raw material of the universe for granted, its starting-place has been reached. Is the constitution of nature determined by the laws of atoms? The presumption is against such a view. Mind never limits itself to the production of materials—an alphabet is formed into books. If the raw materials of nature are the products of mind, then it is more than probable that He who made them has also marshalled them. If Divine wisdom can reveal itself by combinations of matter, it will do so, since it is by such combinations that nature becomes a system of Divine teaching—a course of object-lessons on a grand scale.

It may be impossible to determine how the elements of matter would disport themselves in a perfectly free state. In the effort to conceive them in diffusion, ideas have been borrowed on a liberal scale from the organised world. Radiation from a "cosmic vapour" is spoken of in as "matter-of-course" a way as of radiation from a concentrated mass—heat and luminousness as necessary adjuncts of "nebulous matter." The assertion is ventured here, that neither heat nor light is possible in the circumstances. In a universe of atoms there would be possibilities of both, but an impossibility to evolve either one or the other. Oxygen, *e.g.*, a heat-producing element, when in a free state, as in the atmosphere, is neither self-heating nor luminous. Phosphorus, again, reduced to small particles by admixture with other substances, ceases to be inflammable in the air. A universe in atomic diffusion would thus involve a state of eternal cold, making chemical combination and the evolution of latent heat impossible. The heat produced by friction, as we find it in the atmosphere, would be *nil.* The air does not take fire because its particles move and collide. Again, as the condition of both chemical union and heat, matter must attain a degree of concentration. In fact, it may be stated summarily that isolated atoms are incapable of generating force to any very appreciable extent, and thus must for ever remain in separation. As particles attract each other only from infinitesimal distances, how concentration could be effected without pressure becomes the insoluble mystery. Electricity is the condition of many chemical combinations, but the intense cold of a universe of atoms would paralyse even the operations of electricity. The bearing of temperature on electricity is seen on a large scale in cold countries in the absence of powerful electrical phenomena in winter. The aurora is not an exception, as it presupposes heat.[1]

It is very possible to misrepresent a state of things so far from the range of experience. In a world of atoms, nuclei might form, and, by attraction, concentrate into masses. This is one way in which worlds might originate in a self-moved cosmic whole: a way conceivable indeed, but impossible, for what could prevent concentration into a single mass? The material masses of the universe, on the contrary, give no indication of haphazard formation. The cosmos is a system of suns and planets—of suns that are masses of heated luminous matter, and of planets which are not luminous, and which revolve round the suns as their sources of life. In the process of condensation, the luminous matter has uniformly taken up a scientific position in the centre of a system—the non-luminous an equally scientific one at the circumference. There is also a proportion so perfectly calculated between the weight, distance from the centre, and velocity of each body as to secure a fixed relative position. All the planets in a system occupy nearly the same plane, move in the same direction, and (what is perhaps more remarkable) in elliptical, and not in circular, orbits. In concession to the "convertibility of force" theory, it may be admitted that gravitation is chemical attraction operating in masses. But let us ask, Are the facts just stated the results of chemical force? In whatever way brought into position, the heavenly bodies involve scientific ideas of the highest order. Can chemistry locate a star?—If so, the formula has not yet been announced.

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[1] This beautiful phenomenon is produced by the encounter between two volumes of air at different temperatures, and oppositely electrified. The cold air forms a stratum near the earth, the heated air moving in an opposite direction at a higher elevation. Electricity flashes up from the lower to the higher stratum, giving the pencils of light a vertical position. In other words, the Northern Lights are diffused and continuous sheet-lightning, operating often vicariously at the season when the more powerful phenomenon is generally impossible. The Aurora is most abundant in autumn and spring, when the air is mixed, as in passing from summer heat to winter cold, and *vice versâ.* Last season the most extensive Aurora of many years inaugurated the cold of winter in North America.

But the "nebular hypothesis?"—This hypothesis is forced unnaturally to survive the supposed facts that gave it birth. When the "nebular matter" was resolved into stars, the theory reached its natural death, and by galvanism alone can it be made to simulate life. The hypothesis is interesting as an antiquated scientific curiosity, but is without a *raison d'être*, and wholly inadequate to account for any fact. Matter, in passing from diffusion to concentration, would fall equally on all sides of its centre, and thus make the rotatory motion on which the nebular hypothesis is built impossible. Moreover, only by tremendous leverage from the centre could the cosmic vapour become sufficiently oblate to form the basis of a system in which all the bodies are within a few degrees of the same plane.[1] When cohesion is imperfect, as in liquids and gases, the outlying parts are simply left behind. By the earth's rapid motion at the equator, the atmosphere is not thrown off in gyrating circles, it is simply left to form the trade-winds. Further, nebular motion, if such a thing could exist, would produce rings like those of Saturn, and not stars.

However, leaving speculation, let us look at the matter actually placed within reach of analysis; this should yield a finding on the question of manipulation in the formation of worlds. The chemist, by putting ingredients together in circumstances not realised in nature, forms new compounds. Are there compounds in nature that nature has not formed?

The investigation is complicated by the fact that the primitive rocks do not exist in their original condition. They have been changed by the concrete laws of nature, having been, perhaps, more than once reduced to a liquid state. Still, a middle term may not be wanting by which a very sure conclusion can be reached. That the plutonic rocks were compounds of a peculiar character before fusion, is made highly probable by the fact that heat, and indeed, all the forces together, applied by art, fail to produce them. If heat, acting on the elements, gave them form, like causes will produce like effects. As all experiments in the direction fail, it follows that the primitive fires operated on a substratum not represented by the uncomplicated elements. It is said that "the circumstances in which they were formed are not realisable by the manipulator. They were put into construction in hermetically sealed depths." There must be no mistake here. The rocks in discussion form the earth's original crust, and thus constitute the platform on which the stratified formations are posited. The condition postulated, in fact, did not exist. Take the case of a rolled stone, which, when fractured, exhibits a quantity of petroleum. The substance was formed by confining the elastic elements. The circumstances were not realised in an open boiling sea of molten granite. The very fact that these rocks were cast and cooled at the surface should settle the question. Their composition is accounted for by the peculiar material on which the plutonic fires acted. Men form compounds not found in nature, and are in that respect better chemists than nature. The earth's primitive mass was compounded by the magic power of a greater Chemist than either. The transition from elemental diffusion to complication was effected by Divine force. Eternal cold alone would paralyse the action of law.

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[1] The solar system is here taken as the example.

PHYSICAL GEOGRAPHY.

In the compass of seven chapters the book of Genesis refers to two deluges—one standing as the capital letter at the commencement of the present order, the other a little more than a chiliad and a-half afterwards, and both universal, if universality can be expressed in human language. At the chaotic period, "Darkness was upon the face of *the deep,* and the Spirit of God moved upon the *face of the waters.*" In the second deluge, "All the high hills that were under the whole heaven were covered." By one passage, Deity worked the lever that lifted the land above the water; by the other, according to which the beds of ocean were raised, deluging the earth again, "All the foundations of the great deep were broken up."[1] If these statements are true, the frame-

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[1] A few words on the traces left in nature by the Deluge will not, perhaps, be out of place here. A universal flood could not come and pass away without leaving evidence of its existence. Such evidence would be better marked if the catastrophe happened more than once. When the vapour became condensed, the laws that rule in the ocean now must have come into play. A deluge, if occurring at present, would detach the Arctic ice and carry it south, where it would deposit its clay and boulders, and leave marks of its transit in scraped and polished rocks.

The surface of the earth's mass was once a molten sea. In cooling, a crust would form, very thin at first and liable to disturbance. Mountain ranges would be upheaved only to disappear again, reduced once more to a liquid mass. Long after the temperature of the earth was sufficiently modified to allow of the conversion of vapour into water, the chaotic war would go on. Sometimes the solid parts of the earth would be restored to the roundness of a ball, when the waters would sweep over the earth and cover it. Then continents would be cast up once more, forcing the liquid element back to its ocean bed. Changes of this kind would go on long after the earth had become cold enough to admit of the formation of ice masses in the Arctic and Antarctic regions. Then when a fresh catastrophe took place, elevating the ocean beds and causing a corresponding land depression, the ice would be detached and carried in the direction of the equator. It may be added that a glacial period would be very limited in time. In two or three years at most, the ice would flow south and work of the world must bear the impress of Mind. The grand features of Physical Geography will exhibit skilful arrangement. We ask, then: Are there any such marks of design apparent in the structure of the earth?

When the eye is cast over a map, it is observed, first, that the land hangs from the north in continents resembling two immense crystals. It is easy to conjecture where the force was centred that raised the continents, and its radiations are easily traced. The force in all its ramified operations is represented by the author of Genesis as held in hand by the Master Engineer. Is there any evidence of the fact? Are there any marks of skill in the configuration of the elevated parts of the globe? With variation in detail the Eastern and

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melt. Then, until the dry land was raised and glaciers had formed, and another cataclysm took place, the glacial period was over.

The veracity of Genesis in its record of floods depends entirely on one more or less; on whether the internal fires of the globe were sufficiently vigorous, after it had become populated, to disturb the fountains of the deep anew, and by an expiring effort to reduce the earth to a comparatively level plain. The geological evidence of such a fact must be small. There were possibly no Arctic human inhabitants in those primitive days. Even at present, were the ice masses of those dreary regions floated south, they would carry few evidences of human life with them. Such evidence would naturally be rarer in the time of the antediluvians. This renders a conclusive finding on the subject peculiarly difficult. It is something that the small amount of evidence extant is favourable to our view. In England, boulder clay is found deposited on forests identical with existing ones. In the interior of Scotland, shells are met with in boulder clay, of species still living at 76° N. lat. in Greenland. The boulder clays bearing human relics, such as those found in France by the Count de Perthes, point to the same conclusion. The uniform direction of the grooves in scraped rocks also is consistent only with a southern flow of ice. Moreover, the whole crust of the earth has been broken up since the stratified rocks were formed. The author of Genesis clearly intends to account for the deluge by a change of physical geography, as appears when Genesis ii., 10, 11, 13, 14 is compared with the watersheds of those countries at present. Cosmic operations, large as those here represented, are taken for granted by geologists in accounting for many of the sedimentary rocks. Why should they be outlawed only when there is the possibility of "making God a liar?"

Western Continents are constructed on the same plan. Mind ever repeats itself, and never repeats itself exactly. Seen on a map, the continents resemble each other in general outline; they resemble each other also in one or two striking particulars. The Eastern Continent is divided near the centre by a vast canal, which constitutes the waterway from the Atlantic to the Indian Ocean, the Isthmus of Suez presenting itself as an obstacle. The same idea is realised by the contraction of the Western Continent into an Isthmus, which brings the Atlantic and Pacific Oceans into juxtaposition. The objects secured are the same in both cases; a convenient way of intercourse between distant nations is opened, and a margin left for human energy.

The continents and islands of the world form an area of over fifty million square miles. In every part they are so inclined by the dip of rocks that all, or nearly all, the surface is drained by nature, or can be drained by human art. The innumerable watersheds of the world exhibit a skill beyond conception grand. No part of nature can be more interesting to an intelligent traveller than the variety of watersheds, great and small, which present themselves wherever the eye is turned. To the geologist, uneven surfaces betray the dip and trend of rocks; to a pious mind, they should also suggest the idea of unparalleled engineering power, exercised in the interest of productiveness and health. These watersheds, little and big, always form a system which effects the drainage of a country. Then, no matter how the streams meander, appearing on a map like gnarled branches, when their waters are thrown together in sufficient amount to create a navigable river, they generally make for the nearest ocean with the directness of an arrow. In straight lines the Mississippi flows three thousand miles, the St. Lawrence a thousand—navigable rivers.

Equally wonderful is the expedient employed to prevent floods, and maintain an average depth of water where the supply from tributaries is deficient. In North America the immense deposits of snow are controlled in spring by lakes. In a lake the water of a freshet expands, and debouches gradually. The overflow of the Nile, as of all rivers, is occasioned by the want of lake capacity. Apart from the lakes of Central Canada, the province of Quebec would be another Egypt in spring, and in autumn there would be water enough in the St. Lawrence to float, perhaps, a canoe. Scooped out, not by water-wear, but when the dry land appeared, lakes bear evidence of design.[1] They also afford a margin for human co-operation. By limiting the exit, it is possible both to maintain the average depth of water and to prevent floods.

By the earth's orbital angle we observe, again, that a summer is conferred on the greatest possible area. It equalises temperature by reducing heat at the equator, and augmenting it elsewhere. The difficulty is not entirely overcome. This is apparent from the expedients necessary to diminish cold in the temperate zones. These are "reflectors" placed in chosen positions. An inhabitant of America, who visits Britain in winter, is surprised by the warm winds often felt even in January. Knowing the theory of the Gulf-stream, he concludes that the waters which lave the coast are tepid. When led by curiosity to make the experiment, he is surprised to find them icy cold. Ready in drawing an inference, he at once thinks of the desert. The Eastern is, by preëminence, the *broad* continent. Its great contiguity of land conditions its central parts for cold. This is remedied by a series of deserts that extend from the Atlantic coast to China. The desert of Gobi in the extreme east, and the deserts of Persia and Arabia in the centre, are, each in its own place, what the Sahara is in the west. Hitherto the great races of the world have been nourished into vigour by these reflectors of heat.

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[1] Species of marine animals, not met with except in the ocean, have been found in the deep waters of Lake Superior—a fact which seems to point to the origin of this, as of all lakes of great size, in direct upheaval of the bed of ocean. It is well known that salt-water may become fresh-water lakes in time by evaporation and gradual dilution by the rain fall.

In the narrower continent the same expedient appears on a much smaller scale. The Rocky Mountains draw the moisture from a large extent of territory east and west of them. Eastward the loss is made good in some degree by the Pacific Ocean. The territories west of the mountains, especially toward the south, are comparatively desert. The heated atmosphere carries vitality into the surrounding regions. Some of it makes for the cool region of the mountains, and would find its way to the Pacific, had not the height of the mountains been too well calculated. These heated winds travel hundreds of miles along the ledges of the Rocky Mountains in a northerly direction, still striving to surmount the obstacle. When fairly baffled, they take a north-westerly course, and carry the breath of life into the Canadian north-west territories. It is as if the Great Artificer, foreseeing that neighbours in the south would obtain the lion's share in the "land-scramble" of America, resolved to take the matter into His own care, and redeem a large extent of territory for others at their expense; an arrangement for which we Canadians have reason to be thankful.

There are other details in the great plan by which moisture, as well as heat, is distributed; these are the elongated continental masses, indentations, and lakes. In North America there are three indentations by which the sea is brought far inland—the Hudson Bay, the Gulf of the St. Lawrence, and the Gulf of Mexico. Far inland are the great lakes, in the absence of which the best parts of Central North America would be desert. In the old continent, like results are secured by like expedients. The Indian Ocean, the Red Sea, the Mediterranean, the Black Sea, the Baltic and the North Seas, occupy indentations. What the lakes are in North America, the Black and Caspian seas and lakes are in Asia.

PANTHEISM.

Pantheism is the philosophy of the Absolute. Strictly, there is no such philosophy.[1] All thinking on the subject evidently has facts for its initiative, and is, therefore, *à posteriori*. Every effort to grasp the "absolute," in the pantheistic sense, results in an *à posteriori* conception. In one case, it is the relation of mind to thought—*idealistic* pantheism; in another, it is the relation of matter to its phenomena—*material* pantheism. In another, the mediating idea is a germ, and its expansion giving birth to "evolution." Thus, attempts, mentally, to seize the absolute, result in very mundane forms of thought. As it is impossible to think without ideas, on this, any more than on other subjects, the noblest conception will probably be the true one. Theism is based on the highest possible conception. It employs the relation of Mind to its works, or art, to represent the fundamental relation of God to the universe. When put to the test of fact, this seems to be the key of the position.

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[1] "Absolute" is here used in the far too common Philosophic sense, not in the Theistic.

The father of modern pantheism defined Deity to be the substratum of the two known attributes of nature—"Thought" and "Extension." As mind alone is capable of thinking, and matter is not thought, there can be no common substratum of Mind and Matter. The substratum of thought is mind; the substratum of matter is not mind. The substratum of a piece of iron is iron. In reality, Spinoza, like others, obtained his idea of substance from both mind and matter, and then denied it to both, except as a common centre. He removed a substratum from the position where it was known to be, and placed it where it was not known to be. If a mistake is made in conceiving of mind and matter as substances, whence the necessity of the idea? It is more than probable that Hume took his "impressions and ideas" from Spinoza.

If Spinoza fails in the test of abstract thinking, he fails more signally in that of advancing science. His hypothesis could only have originated in an unanalytical age. Matter is not a uniform substance of which nothing is known but extension. The doctrine of atoms pulverizes the "extension" of Spinoza into as many fragments as there are constituent particles in the universe. His "thought" has an equally small foundation to rest on. Thought is the phenomenon of mind, and not of an unconscious substance, of which there is no consciousness nor knowledge. The structure of atoms evinces the existence of an intelligent power, anterior to their substratum, and giving it being.

Mind and matter are not one. The principle of generalisation, unchecked by common sense, has stimulated abnormal efforts to range all existence under one category. There are two divergent systems. By one, perception has no object but a mental one, and nature is a projection of the mind. Man is either the creator, or only a conscious idea in the mind of God. Here, too, the objection against Spinozism holds—If mind is not a substance, whence the necessity of postulating one? If the consciousness of mind-substance be not valid, an unconscious one of which no consciousness exists must be less so. On the other hand, mind is not the only substance. The contrast between mind and matter, revealed by the law of intelligence, is simply ignored by pantheism. By body-consciousness, as the root of the senses, organised by a skilful Creator, matter is realised. Material objects receive as much colouring from the mind as ideas do, and no more.

The other system gives birth to material pantheism. Mind in perception contacts with phenomena, and not with substance. Substance is the mysterious region of the "Absolute." The God of the material pantheist is a chemical compound and conglomerate.

Some modern thinkers have mystified themselves more than others by reasonings about the "Infinite" and the "Absolute." The "Infinite," it is said, cannot be a person. The confusion has arisen from material conceptions. Extension and mind are incompatible ideas. What is mind-presence? Two men in a large room are in the presence of each other. God is infinitely present by intelligence and power. Intelligence and power involve personality. When the philosophic mind determines to escape from God, it confounds itself by making a dark burrow in the substratum of things, and then exclaims: An unknown God! The substratum of things is not the Absolute.

PART II.

THE ORGANIC WORLD.

ORGANISMS.

In every conscious creature there are two forms of life, distinct from each other as is the pilot from the engine that moves a vessel. The unconscious instinct that builds, and the conscious instinct that controls, although united are *toto cœlo* apart. Mind life is conscious intelligence, endowed with power; physical life is an unconscious power which produces intelligent results. Physical life is a peculiar capacity of motion in parcels of matter, possessing the gift of communicating the same motion to appropriate matter, and of building it up in definite structural forms. If the indurated substance of a stone could seize the plastic material that environs it, and form it into stones endowed in turn with power to form others, till all the parts of a great building—foundation, columns, arches, mouldings, panels, friezes, cornices, façades, pediments, were constructed in position—there would be an approximation to the operations performed by animal and vegetable cells. The definite sections of a honeycomb, and the microscopic parts of an organic structure, are similarly denominated "cells." One is produced by a conscious, the other by an unconscious, instinct.

Inorganic matter is incapable of assuming the functions of life. If germ-cells originated as products of unorganised nature, the distinction between inorganic and organic chemistry must be imaginary. This form of operation would pass into that, and life would have its origin in inorganic laws. The distinction, however, is not arbitrary. Some structures are formed by matter *per se*, others only by matter endowed with life. In nature, carbon-compounds are formed by living matter only. That they are formed in many cases by manipulation also, does not upset this fact. If manipulation alone can form them, then manipulation alone could form the structures that produce them.

In nature, uncommunicated life is unknown. No general truth rests on a more extended induction. A noble faith in Law would lead to explanations by analogy, of apparent exceptions; whereas an ungenerous suspicion of the validity of the inductive principle has led many to grovel in the sediments and refuse of nature in order to find exceptions to her law. By present methods, a petrified honeycomb in the hands of a greater Cuvier, who could detect that it grew but was not generated, might be advanced to overthrow the system of a universe. Nature knows nothing of uncommunicated life. Each link is produced by a prior link, having life. Is it possible that the first and most wonderful link of all originated, not in a more abundant life, but in death?

It is supposed by a very small number that chemical affinity—not alone, but aided by force, and especially through the "convertibility of the forces"—is competent to account for the origin of life. The "correlation" and "convertibility" of the forces are strangely confounded. The forces are correlated, that is, each force can put others, perhaps, all the others into action—magnetism, electricity—electricity, magnetism—heat, electricity, as electricity, heat, and so on. It is overlooked, however, that "correlation" presupposes the independent existence in latency of the force to be disengaged. Heat does not create chemical affinity when it promotes chemical union. A current of electricity passed over a bar of soft iron magnetises it. A current of electricity passed over a bar of soft wood does not magnetise it, because iron has the natural capacity of magnetic motion, whereas wood has not. If magnetism, acting on definite substances, produces electric motion and electric, thermal

—it is because the capacity for such motion pre-exists. The forces are independent powers superadded by the Creator to material existence. If iron were not a latent magnet, its magnetization would be impossible. If there were no life, neither singly nor in combination could the other forces give it being. In producing the phenomena of summer, sun-heat merely awakens the germinal powers of nature. Life, because correlated to the other forces, can act on them and be acted on by them, but it is not convertible into them any more than they are convertible into life.

It is not surprising that the "convertibility of force," improperly comprehended, has been employed as an instrument of atheism. False premisses are fitted to suggest wrong conclusions. It is strange, however, that each new discovery should be advanced in support of a conclusion so lamentable. In "Lay Sermons" (Physical Basis of Life), Prof. Huxley calls attention to the mobility of living matter in the form of protoplasm, and fearlessly announces the landing place as the antipodes of Jacob's ladder. It has been explained that material life is activity, or the mysterious power of unconscious ordered motion. If an acorn were not pregnant with motion, and the power of communicating it, how could it possibly raise a shaft several tons in weight, and anchor it in equilibrium in the air?—It is the ordered result of organic *motion* which suggests the inference that conscious intelligence has created the unconscious life. Prof. Huxley was much surprised to find "protoplasm" in vegetable substances; also to discover that germ-cells are simply compounds of oxygen, hydrogen, and carbon. If vegetables did not contain "protoplasm," pray, how could they supply food for the animal kingdom? and if germs were not compounds of common matter, of what could they be compounded? At the same time, the fact is overlooked that the organising power disappears when the analysis begins. Prof. Huxley does not profess to have found protoplasm in nature isolated from organism. He knew too well that the work of death goes on in ocean-depths as elsewhere, leaving its *débris* as a residuum in the form of "bathus."[1] The motions of protoplasm in living bodies are unfelt. They are so isolated also from those of mind, that the conscious has no feeling of the unconscious. The motion of protoplasm is a discovery of the physiologist.[2]

Parental care being unnecessary in the low form in which life began, it is presumed that parentage was equally superfluous. As all living substances enter life as germs, the rule, it is supposed, would hold at the genesis of life. It is thought easier to produce a germ than the mature structure. This idea is not sanctioned by analogy. It is not easier to make a microscopic watch, and still less so, to make a watch-germ, endowed with power to mature itself. Germs embrace in their nature both an idea and a capacity. Each one is a Sir Christopher Wren, pregnant with a conception grand as St. Paul's, and with the mechanical skill to give it material existence. Is it too much to infer that each betrays the workings of a life-giving architect?

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[1] The organic matter of the sea bottom is, no doubt, the relic of animal remains.

[2] In the healthy body the organs operate unfelt.

The position made necessary by evolution is disappointing. Nature only creates a single cell. This is the logical outcome bravely acknowledged by those best fitted to form an opinion on the subject. A variety of germs so little differentiated as to be undistinguishable from each other would give being to all existing species. A small difference at the base of life would make all needed difference in the superstructure. Such faith in Nature in her great working-day is, however, impossible. All organisms must have a common origin. Admit variety, and a million are as possible as two, and evolution merges into growth.

Every living form is a work of art, the germ the rough sketch of the artist, endowed with power to appropriate matter and do the filling up.—"Does a germ ever forsake its central idea and adopt another?" is a question that has become strangely prominent in the present age. During long periods of propagation, considerable changes are known to have taken place all round the circumference of a certain class of organisms: does the centre ever change? Pigeons, for instance, put out a great variety of aspects; in the course of time will they cease to be pigeons and become something else? Is not this, in reality, to ask whether the idea, which men in all ages have formed of nature, is a mistaken one destined to be corrected by modern science? "Modern science" began its course with very rigid conceptions of nature and her laws. In the reaction, has it been discovered that, after all, she is a chameleon? We are told that "every variation is the germ of a new species." Is it really so? The following statements may help to put the matter in its proper light:—

1. It is in connection with domestication generally that very marked changes are known to have taken place in animal and vegetable forms. Perhaps the word ought to be *exclusively* rather than *generally*. Evolution claims, however, that the changes by which the varied life of the world has been built up have taken place outside of domestication in the production of the domesticator. We grant that in all directions, wherever a purpose can be served, a margin has been left in which man can co-work with his Maker. Were living forms unalterable, all place for human art and ingenuity would be excluded. There would be no room either for the intelligent stock-raiser or for the horticulturist. But what is the fact? Nature is everywhere plastic around man. Mr. Darwin was struck by this phenomenon, but apparently without having penetrated its true significance. He says, "I have been struck with the fact that if any animal or plant in a state of nature be found useful to man, or from any other cause closely attract his attention, varieties of it will almost invariably be found recorded," ("Origin of Species," chap. ii The variability of animals and plants, therefore, is only another evidence of purpose in the world.

Persons who have spent their life on the bosom of nature are struck with a surprise amounting to incredulity when told for the first time that untamed creatures change. This arises not from scantness of induction, but the opposite. To take a homely illustration. In most countries a very considerable number of individuals may be found who have seen nearly a hundred generations of sparrows, and a considerable number of each generation.

A hundred generations will represent at least three thousand years of human life. If not the slightest change can be detected in that time, the inductive principle itself would almost favour belief in fixed forms. If an illustration be taken, again, from creatures that have a still greater power to emphasize their presence, the same conclusion will be supported. Millions of people may be found in all countries who have been only too familiar with hundreds of generations of house-flies, without having detected the least change in either their appearance or their habits. Five hundred generations will represent fifteen thousand years of human history. If no change take place in all that time, is it inconclusive to suppose that it will never take place?

In domestication no creature has given birth to greater variety than the pigeon. The pigeon is the *cheval de bataille* of the evolutionist. "If any animal or plant be found useful to man, or otherwise attract his attention, varieties will be found recorded." If only to serve as a pattern of faithful conjugal attachment, it was not unworthy of the Creator to give the dove power to attract attention to itself, as one of the most interesting of creatures. As the dove represents the extreme of known variability, it probably represents the utmost limit of possible change. In nature, we admit, creatures capable of extended locomotion, making change of circumstances and of food possible, have undoubtedly put out varieties, equal, perhaps, to those produced by domestication. To deny this would be as absurd as to run the opposite idea to death by fervour of the imagination. The truth generally occupies a *juste milieu* between two extremes. Large *varieties* are produced by nature, new *species*—never. All testimonies, present and past, living and dead, sustain this view, and no other. The most diversified pigeon is still a pigeon. For the geological evidence we appeal to Prof. Huxley: "Obviously, if the earliest fossiliferous rocks now known are coeval with the commencement of life, and if their contents give us any just conception of the nature and the extent of the earliest fauna and flora, the insignificant amount of modification which can be demonstrated to have taken place in any one group of animals or plants, is quite incompatible with the hypothesis that all living forms are the results of a necessary process of progressive development entirely comprised within the time represented by the fossiliferous rocks."—("Lay Sermons: Geological Contemporaneity, and Persistent Types of Life.")[1]

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[1] In his recently-published Lectures—"Four Addresses delivered in America," Professor Huxley announces that he has at last discovered palæontological evidence of Evolution, both probable and demonstrative in its nature.

a. In the line of *probable* evidence, connecting-links have been found between reptiles and birds in extinct species having teeth, others with claw-tipped wings. Birds with combination-wings, half-wing, half-paw, or with teeth, were well fitted for foraging and defence. The varied application of a few ideas by the creative Mind is met with in every department of nature, so that the existence of variety is easily explained without the help of the evolution theory. Dr. Huxley does not inform us, either, how the extinction of such monsters is to be reconciled with the survival of the fittest. After awaking expectation, we are finally told that the real connecting-link in the case is another kind of monster, which, in some specimens, reached the enormous length of forty feet! What has become of the bird? When announcing in the same breath the extinction of such powerful organisms, and the survival for "a period vastly greater than 30,000 years" of the infinitesimal *Globigerinæ*, is it not, after all, Professor Huxley's purpose to amuse himself and his readers at the expense of the evolutionists? If Dr. Huxley is sarcastic, there may be meaning in his conflicting statements.

2. It is taken for granted that the subject was well weighed before evolutionists committed themselves to the doctrine of "missing links." Newly evolved advantages enable a creature to destroy the race typifying its ancestry by monopolising their food. "The fittest survives." On account of the vastness of creation, it is impossible to grasp all the consequences of any assumed position. It is conceived that the advocates of this theory fail to realise the far-reaching results of their own reasonings. If, from the time of the primitive "germ-cell" till now, every advance in organisation has led to the extinction of less improved structures, how is it possible that anything in the shape of life is found in the world except man, and a few of the species that minister to his wants? A slight change of structure, which constituted an improvement, admittedly did not associate with itself a sudden change of taste or mode of living. The improved organism would, therefore, not only consume the food of its ancestral type, but that of all ancestral relations for ages back. Consequently, not only "missing links," but the whole chain of life must have perished except the last few links, if not, indeed, the last one. It is impossible to see how this conclusion can

b. But Professor Huxley has also obtained *demonstrative* evidence of evolution. This consists in unmistakable proof of the development of the horse. From the knee-joint down, a horse's limb is the evolved middle toe of a more primitive animal. The original horse was underset at the knees by a five-clawed foot! Four toes were suppressed or dropped, while the centre one was worked into a stilt, the tip of the toe-nail forming the hoof! It is but just to add, that Professor Huxley lays the responsibility of his opinion in part on his friend, Dr. Marsh, who has found a number of these elementary limbs inextricably embedded in indurated clay in America. Few will be either surprised or sorry when told that the American horse became extinct.

be escaped. In contradiction to the idea of "missing links," and to the still more fatal consequences of the theory, we find that every niche, nook, and cranny in the world is so filled with varied life-forms—species shading into species in all directions so gradually—that sensible people wonder where the "missing links" have lapsed from. Thus, the very varieties of life in which species pass insensibly into species, the facts which are the *prima facie* evidence of evolution, form the strongest possible argument on the other side.

But the logic of evolution and of nature are not coincident in another respect. The demands of the system are not met in their main direction. The strongest and most advanced forms do not supplant and survive the weaker. We adopt Mr. Darwin's own method of illustration. Mr. Darwin calls attention to the fact that mounds in America are covered with forests uniform in character with those of the surrounding country, and images the ages necessary to supplant the ordinary poplar exhibits of such localities. It may be remarked, by the way, that piled-up earth is not a natural condition, and that the primitive forest of a mound might not, and probably would not, be poplar. In every natural forest there is a tendency to regular rotation, or perhaps, it should be said, to change of crop. A maple grove, for example, has commonly an undergrowth of beech, which will prevail in the next generation. In every case the existing crop destroys its own seedlings by exhausting their support. It is on this account that, as Mr. Darwin remarks, a pine forest, when destroyed by the axe or by fire, is followed by a poplar one. The undergrowth of a poplar grove is not poplar, but a variety of trees. A mixed forest propagates one of the same character, because not uniformly exhausting to the soil. A young oak may get a start in life at the root of a beech, and *vice versâ*. These facts prove that the most advanced organisms in the struggle for existence destroy, not their ancestors, but their descendants. Improved organs lead to the destruction of a species by exhausting its pabulum. Perhaps geological history may establish the same conclusion in the regions of animal life.

3. The fundamental postulate of evolution involves at least two impracticabilities :—(*a.*) Organisms are not able by instinct or intelligence to seize on any advance or fortuitous advantage of structure, and convert it into a new tool by utilising it. One or two cases will make the position tangible. Take the ant, as an instance of a very intelligent creature. Can anyone believe that if spines should evolve on the back of an ant, it would cast itself *a dorso* on its prey, spike it, and carry it as the porcupine is said to do?—Or, let an example be taken about which there can be no doubt. Were the tail of the squirrel to become flat and rigid, like that of the beaver, is there the least likelihood that instead of using a natural cavity as its domicile, it would become a builder, and use its tail to convey its materials?—*Ab uno disce omnes.* Every primitive organ would, at its first appearance, be as much out of relation to the animal on which it developed as in the instances imagined. The proboscis of the elephant, according to the evolution theory, would be a somewhat

exaggerated nose, which the brute would conceive the idea of using as a prehensile instrument. If anyone will try how far the will can assert its power over the apex of the nose, he will be able to judge of the ability to make it a forceps.

(*b.*) This touches the second impracticability of the system. All locomotive and prehensile instruments, such as mouths, paws, hands, and feet, with their shafts, would first appear, we are to believe, as wart-like excrescences or infinitesimal worms (the larvæ of the ascidians), which the creatures would elongate and define by use. Unfortunately for evolution, excrescences are not amenable to the will, and it not being possible to utilise them, they would disappear. Animals are instinctively conscious of their permanent bodily parts, and of the way to use them, but they know nothing about the use of tools. A new development would not be even a tool, but only the raw material out of which one might be made. Evolution demands that the whole animal world, from its embryotic days, has had a constant eye to the main chance—has been on the *qui vive* for advantages which, by prolonged efforts, could be converted into improvements, until, in the course of time, a microscopic insect has built itself up to the full stature of a being who can not only use but invent the instruments required to observe a transit and measure a parallax.

It is one of the axioms of evolution that mind is the result of organisation. Out of all consistency, its advocates thus devote their mightiest energies to prove that organisation is the result of mind. This vicious circle is prominent in every work on evolution, but especially so in

Mr. Darwin's "Expression in Men and Animals," a work conspicuously weak in another respect. Creatures that partake in common of flesh and blood, of a bony structure, muscles, and nerves, and of mind, may surely express common feeling in a common way without being blood-relations?—Because wind and stringed instruments strike the same keys and play the same tunes, it does not follow that one is an output of the other. The proper inference is that both are inventions of the same, or of the same class of, mind. Surely it is possible for an intelligent being like man to smile, without having been necessitated to learn the habit by the exercise of a grinning power as an inferior animal? A degree of sameness characterises all the works of the same mind. The works of God—be it said with reverence—are no exception; similarities of structure, therefore, favour creation rather than evolution, Mr. Darwin's assertion of the contrary being a mistake. In all cases of undoubted evolution, there is no observable resemblance between the unevolved and the evolved structures—germs and their products, for example. Half-grown and full-grown creatures resemble each other, but growth and evolution are different things.

4. The doctrine of evolution proceeds on the idea—not merely that nature occasionally propagates abnormities, but that this is her permanent law of action. A primitive germ-cell, originally germinating cells of its own pattern by differentiating itself in all directions, during countless ages, has built up all the various life of the world. The piecemeal propagation of little varieties does not void the difficulty. A cricket, with a human head and body, legs

and arms, and a human mind, would be a monstrosity, even if a thousand million years were necessary to effect the transmutation. An abnormity is a real departure from the normal type. Whenever a danger exists of this taking place, the reactive force of nature comes into play, and restores the *status ante.* Hence, monstrosities rarely perpetuate themselves beyond one or two generations. Equilibration has been made familiar to speculative science by Spinoza. It is an extreme originating in the consciousness that represents it as alternately constructing and destroying nature. Its object as a law of nature is to conserve, and neither to construct nor destroy. In the world of life two powerful tendencies are at work which balance each other, the one to variety, the other to resemblance. The tendency to variety is so great that no two individuals of any species are, or ever were, exactly alike, some varying considerably; and the tendency to resemblance is such that all living creatures conform to a very few general types. If the law of variety prevailed over the law of resemblance, the world would be filled with individualities making classification impossible. If, on the other hand, the law of resemblance prevailed over that of variety, universal nature would assume one type. Whenever the normal type is threatened with destruction, a powerful reaction sets in, which brings the matter to rights. Out of many illustrations at command, the two following are submitted :—The writer was well acquainted with a person whose nose, a perfect healthy one, measured nearly six inches from root to tip. It is apparent that the beautiful symmetry of the human face was threatened with extinction by a case like this. At least ten generations of *distingué* noses would be necessary to build up such an organ. Yet, strange to say, the peculiarity disappeared in his children almost, and in his grandchildren altogether. The ancient Romans were celebrated for amplitude of the nasal organ. In Italy, by this time, there should have been, therefore, whole families of human pelicans, either using the nose as a prehensile instrument, or having the upper lip and jaw identified with the bill. The thing has not taken place, because nature's laws, by their balancings, refuse to foster the monstrous. "At least four generations of thinkers are required to produce a phenomenal thinker." When the genius appears, he is the last of his line, and immediately the pendulum oscillates to mediocrity, perhaps to imbecility. Greece for a length of time gave birth to a succession of extraordinary geniuses. In that country the human mind gave indications of moving permanently into a higher plane, and becoming seraphic. By and by the reaction took place, and all know what has happened. There is a limit to improvement both in men and animals. To maintain her normal state, nature is also checkered in every direction by impassable walls, defining and separating species by making admixture impossible. It is because she refuses to propagate monstrosities that hybrids are sterile. Evolutionists profess to attach the utmost importance to heredity without perceiving that they overthrow it. If an oyster ever becomes a man, it can only be by refusing to perpetuate the peculiarities of its own species.

5. The theory of evolution fails in verisimilitude. The

initial relations of life, especially, are against it. (*a.*) There are initial differences between small and large organisms that suggest the absence of any such relation as evolution demands. The small animal germs are characterised by extraordinary vigour and power of self-preservation. They are universally outcast from birth, yet they live and thrive without a parent's care. On the other hand, the germs of large animals are characterised by weakness. They have to be carried for months, and nursed for a considerable period with tender care, while the being who occupies the highest place in the scale strangely caps the climax of imbecility. If invented out of sheer contradictoriness, the evolution of life could scarcely appear more like it. Then, running parallel with this wonderful vigour and progressive weakness in the offspring—there is callous indifference to the young in the insect, and savage [illegible] in the larger species. Unless a peculiarity may be evolved from its contrary, neither of these things points to relatedness of life.

(*b.*) Every organism involves both a framework and a chemical apparatus. In each there is a laboratory that prepares materials of a special kind, which are built up in a definite form. Animals living on the same kinds of food create substances characteristically different. Barnyard fowls have fed together for ages without losing their peculiar flavour or characteristic shapes. In each the chemistry seems to be as invariable as the laws of the solar system. Domestication is able to direct increased vital action to a part, as the nose or ear, and to control the colouring-matter that paints the skin; but the peculiar substance and build of each is, except to a very moderate extent, invariable. Even monstrosities generally conform to the plan of the type. An animal occasionally puts out a supernumerary hoof or paw, but then this also corresponds to the rest, simply because the chemistry of the system prepares the requisite materials, and the organism, by its laws, builds up just such members and no others. If the ape occasionally put out a perfect human hand, or even a finger, a tendency would be betrayed to the transition-stages set forth by evolutionists.

ADDENDUM.

Mr. Darwin and his Theory of Earth-worms.—The guiding principles of life are commonly the generalised experiences of youth. Mr. Darwin's first practical scientific work was connected with the coral insect. The life-long tendency to magnify the results of small causes began here. Ever afterwards, the cumulative work of this little creature seemed to fill his imagination, and its method became the fundamental principle of his philosophy. Mr. Darwin made the variation of plants and animals, and its accumulated results, his life-study. Such studies necessarily led into regions of obscure uncertainty, while the conclusions were of a kind that afforded no tangible opportunity to gauge the value of his peculiar logic.

The work on Earth-worms is an emphasised illustration both of the excellencies and the defects of this celebrated man. His intellectual vision was little short of microscopic. The patience and power with which he concentrated his attention on the minutest facts bearing on a subject, turning them over on all sides, and putting them to the severest tests, approached the miraculous. But Mr. Darwin's greatest defect was intimately connected with his peculiar talent. The field of vision in a microscope diminishes in proportion to its magnifying power. Mr. Darwin's wonderful faculty of concentration on the minutest of facts, made him overlook other facts larger, and with important bearing on the subject. His reasonings are commonly irrefragably linked to the basis on which they stand, but his premisses are as commonly defective—strange to say, from an incomplete view of the facts. His work on Earth-worms is an example.

Mr. Darwin very correctly observed that while earth-worms were found on the margin of a pathway (in the track of cattle), they were not found in the neighbouring forests. These facts have a meaning which, unfortunately, Mr. Darwin failed to penetrate. Earth-worms do not live on vegetable mould, strictly so-called. If they are not found in forest-soils it is because they live on animal matter; thus demonstrating their relatedness to the intestinal worm. They "chew" newly-fallen leaves, as Mr. Darwin abundantly proves; but they do so as men eat oranges—not as the staff of life, but as luxuries. If they lived on leaves, the forest would be their proper home. Nor are earth-worms ever found in pure clay or sand, except as in places of refuge, or sub-soil burrows. They turn up only in localities where decomposing animal matter abounds. If, as Mr. Darwin states, earth-worms pass all the "vegetable mould" of a field through their bodies every three years, it is when the matter on which they live is constantly renewed by manures. When the animal mould is exhausted, earth-worms disappear. A boy who fishes knows that the best worms are always found in proximity to a heap of animal compost.

Mr. Darwin entirely over estimates the earth-worm as a navvy, by overlooking other factors—*e.g.*, *Rain*, *Frost*, *and Vegetation.* (*a*) *Rain.*—In some conditions of the soil, a shower of rain, such as accompanies a thunderstorm, will wash particles of lime over an inch into the earth. Is it remarkable, then, that in twenty-nine years a stratum of lime was found compacted on the sub-soil, several inches below the surface? (*b*) *Frost.*—By heaving the soil, frost makes it engulf compact bodies like little stones, bits of lime, and marl. In Canada, a new stone-dyke sinks at an average rate of two inches a year for several years; even after it has penetrated beneath the action of frost, it still sinks slowly because weight overcomes the cohesion of the soil. On this account Mr. Darwin found that, while stones a foot thick were embedded only a few inches, a Roman wall, twenty feet in external height, had sunk to the depth of fourteen feet. (*c*) *Vegetation.*—Decayed grasses form soil more rapidly than any other substance. While the oldest forests in Canada have deposited not more than three inches of vegetable mould, the soil of the Western Prairies is often three feet deep. When a nidus for grass has once formed on an old pavement, which may take place by the tread of cattle in wet weather, by their droppings and by the droppings of birds, the result is sure.

It is conceived that the natural function of earth-worms has yet to be described. Mr. Darwin makes a point when he shows that they line their burrows with leaves, for leaves contribute an item to soils. He makes a point also, when he proves that they do something in the way of subsoiling. If, however, as Mr. Darwin shows, worms utilise their old burrows when once opened, they may do service for ever. On the whole, the work of earth-worms, like that of most worms, may be mischievous. On the authority of observant horticulturists, it is affirmed that earth-worms consume the rich ingredients of the soil, and leave an excrement that hardens it and paralyses its vitality. A rich garden, when uncultivated for a few years becomes poor—a result supposed to be arrived at chiefly by the action of worms.

GROWTH AND INSTINCT.

"CRYSTALLISATION" is regarded by some as the mediating fact, the "Rosetta-stone" that is to interpret the wonders of growth. The whole mystery is supposed to lie in the complication of the germ. In inorganic chemistry, compounds have affinities for other compounds, creating new substances, not compoundable, out of the isolated elements. Heat and moisture simply set the affinities of the seed at work to attract and incorporate foreign matter. The internal organs of animals are "crystallisations" also, as the sponge is a soft crystal formed from the substance of the *spongiidæ*. Explanations of nature, however, do not rule the Creator out of existence as a superfluous Being. He Who paints an insect's wing, alone can form a germ. The workmanship is too delicate for any instrument but the finger of the Almighty.

Crystallisation might comprehend the whole truth on the subject, if facts could be discounted which it fails to explain. Growth is, in one respect, a continuous chemical operation; but were it chemical only, it would go on indefinitely, so long as there were matter and the favouring conditions.—But what are the facts?—With an unlimited amount of food at command, the animal organism ceases to expand as precisely as if the operation were performed by contract. A flock of ducks has no less appearance of having been made to order than the same number of decoy ducks in a sporting establishment. The size, weight, and strength of animals have as evident reference to the law of gravity, as have the weight, distance, and velocity of the planets. Then, at a given time, after growth has reached its maximum, the body begins to dry up and decay. This is incomprehensible, since with self-repeating cells an animal body seems fitted to live nine thousand years as readily as nine or ninety. Where there is no lack of the materials of life, it is inexplicable that animals are so short-lived, for it is well known that chemical affinities are fixed laws. We infer, then, that vital vigour, as well as a mysterious direction, operate by rule.

Life is a continuous chemistry, but it is more. Physical life is the nearest approach which matter can make to the operations of mind. It is mind abstracted, as it were, from its base of conscious intelligence and power. It performs the work of mind—but unconsciously, as its agent. As if to show that its *primum mobile* is spirit, it is sustained in all animals by co-operation of the mind. A moment's attention will satisfy that breathing is maintained by the will, although unconsciously, as the result of habit. Will is brought into play also in the choice and mastication of food. Feeding, in the strictest sense, takes place in the capillaries, and is a purely chemical process; but ere the food reaches its destination, extensive operations, voluntary and also involuntary (in the digestive organs and circulation), are performed. From root to leaf a plant is almost uniform in substance; the wants of the root and of the leaves are the wants of the plant; they attract the matter that builds the tree by affinity. An animal, on the contrary, is attracted to its food by something in it that affects the mind through the olfactories. To a far greater extent than plants, animals take in mixed substances, partly nutritious, partly innutritious, which are separated in the organs. The conscious affinity which an animal has for its food, as being the source of continued life, is calculated to impress the fact that even physical life is more than matter.

In the whole animal kingdom, three things are noticeable in each specimen as regards its feeding capacity, viz., the instinct of food-selection, fitness of the selected article, and a body adapted by endowment to obtain it. A newly-imported animal, placed in field or forest, where innumerable unfamiliar plants exist, will pass over the innutritious ones by infallible instinct; and strange to say, the infant animal has the same wonderful faculty. Organs also are adapted to given lines of life. If a bird has an instinct for fish, it will either wade or dive for it. If it wade, it will not only have long legs, but a long neck and bill; if it dive, it will generally have a hull-shaped body, short legs, and web-feet. If an animal has a taste for underground food, it will have both feet and bill fitted to obtain it. If it live on grass or flesh, its digestive organs will be constructed accordingly. An undoubted chance conjunction of such various adaptations, in a single case once in a thousand years, would be heralded by undying tradition. Is there any such record? The world contains untold millions of living creatures, but just as it has been shown that animals know nothing about the use of tools, so is it out of their power to adapt either their instruments to their appetite, or their appetite to their instruments. Instruments and instincts must go together.

The process being not altogether unlike crystallisation, growth seems necessarily to exclude the possibility of structural change. The same matter will always crystallise in the same definite form; the impulse known as life merely works the process. Steam never changes the law of working of the machine which it impels. An appeal to comparative anatomy sustains this position. Typical structural forms are not evolved from elements found in lower typical forms. Every more advanced organism has something original in its structure, as may be seen by comparing a perfect plant with a perfect animal. If the sap vessels of a plant correspond with capillaries, and the woody fibre with muscles—if the protoplasmic threads may be said to offer an approach to a nervous system—there is yet no trace of a bony skeleton, of a digestive system, nor of the nucleus round which these could be built. For similar reasons the higher have not evolved from the lower animal world. In the lowest specimens of animal life there are neither stomach, nerves, arteries, veins, nor bones, and, therefore, neither the nucleus nor the raw material out of which to evolve them.

In examining the ascending hierarchies of life, not evolution, but improvement and the introduction of new ideas is detected—paralleled, say—by the successive improvements of the steam-engine. Each step of progress is an addition, betraying a new idea. Of course, it seems strange to us that a Being Whose knowledge is infinite should have adopted a method fitted to suggest the idea of human ignorance and progress rather than of Divine Omniscience. But, on the other hand, it is impossible to see how varied life could exist without variety in type, and a variety circling round many progressive ideas. It has been said that the world must be filled with life of all degrees in order that there may be "no waste." The latter idea, however, has sometimes been carried too far, since the major part of the earth's bulk, for ought that can be seen to the contrary, exists merely as "stuffing" to create weight and surface-extension. The majority of plants, again, offer neither food nor medicine, but, like forest leaves, by their decay, simply enrich the soil. Nevertheless, life and food being correlates, life may be adapted to food as well as food to life. But in endeavouring to account for progressive types of life, why should the element of "variety" be lost sight of?—The Divine Mind, like our own, has pleasure in variety, and if creating it for His own purposes, would it not be done in orderly and graduated forms?

Further, everything being made for human instruction, another object, undoubtedly, is to help us in our investigations. At the portals of zoology, nature performs an analysis for the benefit of the student by presenting structures in their simple elements, like a piece of machinery separated into its component parts. The most primitive animal in existence is simply the most elementary portion of the feeding part of an animal dissected out. It is an absorbing substance without nerves, digestive organs, circulatory system or prehensile instruments. It expands its body and doubles on its food in any direction, absorbs it, and rejects the refuse. All animal bodies are fed by absorption from the capillaries. The digestive organs and arteries are servants which prepare the food and convey it to the dining-room. The *amœba* dispenses with all state by bringing its substance into contact with its supplies. The sun-animalcule, again, is substantially the same creature with improvements. It is overdone with prehensile instruments, which appear all over the body, like the pictured rays of a rising sun. It is covered with filaments spun out of the substance of its body, by which its prey is seized and dragged in. Thus, in the first appearance of prehensile instruments, they are so conspicuous by their numbers as to suggest anything rather than the *beginning* of a developmental process. In this group, also, a first attempt is made to form the skin. It is exaggerated into a shell with foramina for mouths, lungs, and pores. In the sponge we have what looks like a first and very rough attempt to create a bony skeleton. It is an enlarged process, like the A B C on a school card. In the first appearance of a circulatory system the same vessel serves as both artery and vein; it conveys the blood from the heart, and to it. The venous system occurs afterward as an improvement. Nerves are first found in the oyster, but only in groups, without a brain or centre of union. When the brain appears, it is also a new idea.

In their structure, these simple creatures thus involve the whole mystery of animal life. The elements of structure appear in isolated and exaggerated forms, as if to block the very conception of evolution. Conscious life in such low forms is itself a supreme objection to the theory. As the conscious is a long advance on the unconscious, evolution should take place from the most advanced vegetable forms. On the contrary, the lowest vegetable germ is, perhaps, an advance on the lowest animal.

Man stands immeasurably apart from the whole animal world in two respects—both antagonistic to evolution :—

(1.) If evolved, the most important animal instinct has been evolved out of him. He has not the power which all animals have, instantly to distinguish his food. The author of the book of Genesis, with true philosophic appreciation, recognises the necessity, in the infant man, of guidance to his supplies.

But (2.), on the other hand, man is recouped for this defect by powers denied to all other creatures. He can investigate facts, analyse substances, and draw conclusions. If he is almost deprived of instinct, he is capable of knowledge. Very dependent in the infancy of the race and of the individual, in time he can prepare a table of unlimited courses. By his power as a chemist, he can convert unpalatable into palatable and nutritious substances. An animal so near man as the gorilla might betray his relationship by being a cook—at least, he should know something about the use of fire.

One peculiarity connected with instinct has not been much noticed, viz.—That exceptional instincts become ruder in proportion to the size of the body. Scientifically, man is a builder. The instinct first appears in an emphasized form in the coral insect, then in the bee, and last of all, in the beaver, but the operations of the beaver are coarser than those of the bee or of the coral insect. The humble bee, again, makes a ruder cell than the hive bee. Mr. Darwin made a serious mistake in supposing the hive bee to have been evolved from the humble bee. Evolution by contraction of parts!—He reasoned from the point of view of instinct, overlooking the fact that the building-instinct is in inverse ratio to body-evolution. This is seen in the case of birds. Small birds make beautiful nests, but the larger much ruder ones, until the instinct disappears altogether in the ostrich. The building-instinct has disappeared totally in the quadrumana. It is affirmed that the gorilla makes a hammock. This is doubtful, as in tropical countries the trees are often matted by climbing plants, affording natural hammocks to creatures able to utilise them. The outburst of the building faculty, as well as of general intelligence in man, is evidently a unique gift of heaven. Disappearance of the tail, again, is supposed to mark the approach to humanity. Strange, that the great building mammal—the beaver, has a more consolidated tail than any other creature. Its tail is, in fact, its implement of labour.—Does nature smile at "science?" The thing looks sarcastic.

The marked resemblances noticeable between the whole order of quadrumana and man, led some from a want of scientific appreciation, as early as last century, to regard the monkey as a human being in process of development. For the sake of argument it may be admitted that all the quadrumana belong to one species. There is not much greater difference between the gorilla and the smallest monkey, than there is between a giant and a dwarf. It is evident, however, that the whole race is "off the line" of human evolution. The human cranium has a capacity of ninety-six cubic inches —that of the gorilla, although it weighs two hundred pounds, twenty-six inches. At this rate of brain-progress, the gorilla would weigh, at least, several tons before it developed a cranium of human size, and then it does not appear that its intelligence would exceed that of the elephant. Evidently the author of the "Descent of Man" had lost his bearings.

In "mind" qualities again, let it be observed, the quadrumana should approach man more than they do. Superiority of form should beget superiority of mental, and especially of sentimental, qualities. But the monkey is not so intelligent, and certainly neither so companionable, nor so fond of human sports as the dog. A being so nearly related as the monkey, should be man's household companion, and take more kindly to him than any other creature. The "touch of nature" which establishes kinship is, however, not felt on either side, certainly not by the gorilla. To act as a foil seems to be the *raison d'être* of the monkey. He is a mimic man—antics are his profession. His likeness to man makes him ridiculous, like a clown in the robes of a judge. His providential object would, therefore, seem to be to call attention to the immeasurable distance between man and the whole brute creation, the contrast being struck by comparison. A brute in human form only creates a laugh. The whole *ensemble* of the monkey intensifies his absurdity and broadens the smile. When man is said to have sprung from the monkey, it is the drollery of the impeachment that gives it vitality.

The relation of the brain and nerves to thought is an interesting, although a somewhat puzzling subject. All fully organised animals have the tissues, and it is very generally believed that brain-size is the measure of intelligence. If true, this would give support to the idea that the mind and the brain are identical. When the subject is discussed formally, it will, however, be shown that the brain is not the intelligence, but its instrument. In relation to the present chapter the following statements are necessary:—

(1.) A creature with a very small brain performs the most wonderful feat in nature. The vast majority of human beings pass through life without doing anything so extraordinary as what is done by birds in migration. This wonderful feat is performed through the brain of a humming-bird. Among men there is great discrepancy between brain-size and mind. The largest heads confirm the old proverb, by belonging to blockheads who are deficient in mind-power to use them. Clever men have often very small brains. Where a large brain and a mind to correspond meet, then we have "genius."

(2.) The most primitive conscious creatures have neither brain nor nerves—a much-needed lesson connected with the A B C of conscious life. It demonstrates that brain and nerves are not synonymous with consciousness.

(3.) The brain and nerves are callous as a telegraph-pole. Messages pass through them every moment, unfelt as the electric fluid is by the wire along which it travels. A touch is felt at the point of contact—the motion of a finger or hand where the movement takes place—the whole length of the communicating nerve and the brain from the place of sensation to the mind being as unconscious as if they had no existence. This is not accounted for by rapidity of motion, as nerve-matter does not convey motion rapidly. This and the whole class of connected facts prove that sensation is in the mind and not in the nerves.

(4.) All men and animals locate the objects of sense outside of the body. The vibrations causal of sight and hearing are unperceived, the distant objects that produce them are seen and heard. How is this? Simply because the brain and nerves, although unconscious, are tenanted by a philosopher, who traces effects up to their causes, and who uses nerve and brain as the eye uses a telescope—unconscious of the medium. It is affirmed in reply that the brain is consciously exerted in thought. In attention, the brain is brought to bear just as the arm is in action. Brain-movements are intimately connected with thought. In an incarnate being, both natures form the person and co-operate in every process. In sensation and perception the mind is roused by vibrations in the brain. Movements of a somewhat similar character may not be dispensed with in thinking. Will-force brought to bear on the brain probably creates a condition like that which precedes perception. The dead weight of corporate matter often felt so oppressively, may be neutralised by brain-force, operating as in the antecedents of perception. We tickle an ear to awake a sleeper.

Nothing is compromised by admitting that the brain may occupy a relation to thought like that which a battery does to electrical effects. The mind, in existing relations, may not perfect its movements without a material stimulus; but it is evident from consciousness that the stimulus, too, is under control. In operating to purpose, a battery must be worked. The mind consciously controls the brain. Brain-force being an emanation from molecular brain-movements, cannot be the cause of the movements. The permanent conscious Self, or Mind, puts constraint on the brain, and compels it to yield its force at discretion. Whatever brain-stimulus is, the conscious Will compels its action at any moment in any of an unlimited number of directions. The subject of thought is an object of choice.

That the force which compels thought, and in which thought subsists, is not an emanation of the brain is clear to demonstration. The mind is a consciously continuous and identical substance. In a battery, the force yielded to-day is not that of yesterday, nor is that of two successive moments the same. If the identical Self be material, it must be the brain, as the permanent substratum of thought, and not any intermittent force generated by it. This point and others involved will be discussed under "MIND."

To explain how successive flashes of conscious thought become a conscious *person*, the association of ideas is appealed to. It is forgotten that a transient spark, which flashes "out" at the moment of its birth can form no associations. Every passing thought is

> "Like a snow-flake in a river,
> A moment white, then lost for ever."

A thing so fleeting forms no friendships, nor leaves any trace of existence. Successive thoughts are isolated as if originating in different brains. Successive flashes of light in a thunderstorm would as readily associate themselves into a person, and transmute the rolling thunder into the voice of a living monster. The source of memory and the principle of unity in all living creatures, *if material*, must be the brain.

UTILITY.

Nature never makes abstract pictures. Her painting is the "finish" put upon things. Beauty in nature always serves some underlying purpose, which is, perhaps, intended as a hint for our own guidance in art production. A picture in nature, formed by the conversion of a whole district into a concrete "thing of beauty," is more impressive, because more realistic, than one on canvas; and standing open to public inspection, it elevates and refines all. To aid the imagination in realising scenes distant in time and place, appears to be the legitimate object of the pictorial art. Nature, however, does not absolutely discountenance fancy painting, for some flowers by cultivation change their stamens and pistils into leaves, to help the gardener in his efforts to realise simple beauty.

In nature, Beauty is always the full expression of Utility. The green leaves of a plant are its lungs; the long stem and branches, which constitute the majestic form of a tree, are simply the organism shooting up into the air, and dividing itself into rope-like strands to expose all possible lung-surface to the atmosphere. Plants proclaim their intention to bear by covering themselves with silk and velvet bunting. The rounded form of animal bodies is produced by the configuration of the muscles that move them. The beautiful variety of surface created by hill and dale constitutes the watersheds and drainage of the earth. Rounded beauty is given to mountains by detrition, but the substantial result is a soil. Even the waste places of the earth have a purpose. There are millions of square miles of rocky surface fit only to produce materials for the timber supply of the nations. Were the whole earth arable, human avarice would denude it of its forests.

The world is a mass of fitnesses, compact as the works of a watch. To say that these infinitely multiplied adaptations are the product of the "survival of the fittest," is to say nothing. The watch or the reaping-machine is a survival of the fittest. They are the result of many unsuccessful efforts; but achieved success does not render unnecessary the mind that planned, nor the fingers and tools that made them. In each case, the fitnesses that produced are more wonderful than the results achieved. If existing fitnesses originated in matter without immediate manipulation, it was in matter in complete adaptation for the result. Such a state was more extraordinary than the result, as the cause is greater than its effect, a germ more wonderful than the mature product. Nothing is gained by supposing the present to be the offspring of an anterior state of things. Atoms, from the moment of creation, had all the adaptations to each other which they have at present. The same inference must be made in reference to their combining powers, as bearing on the internal relations of germs.

The belief that matter endowed with life, without specific direction, would in time produce the fitnesses found in nature, is a groundless prejudice. Were molten metal cast into unmoulded sand over and over again for ever, nothing but a general outline of any living creature would be obtained. In its upheavals, the molten matter of the earth seems occasionally to have striven after form. In some cases the general configuration of an animal has been produced; but in no case is there found a perfect head with its brow, eyes, ears, jaws, or teeth—to say nothing of the thousand and one adaptations in every animal body. A germ with life, without direction or a guiding idea, would never approximate to the animal form more than a cactus sometimes does. The existing fitnesses in nature, if the offspring of an anterior state, were produced not at random—but by law, as a tree is by the law of its germ.

The "survival of the fittest" removes no difficulty—satisfies no demand of reason. If it were a known fact that forms pass into other forms, species into other species, the "survival of the fittest" would affirm the principle on which the change took place. In a world of comparatively fixed forms, it throws obscurity and perplexity into the whole subject. Moreover, the principle fails in its object. It is advanced to facilitate the operations of nature or of the Creator. It does neither. Germination is the most inexplicable phenomenon in nature. God could have made species separately. This would have been the easiest way. In creating a germ able by its evolution to originate all species, He made them all at once, and in the most difficult way possible.

In examining life and its supports, masses of fact are met with explicable only by the theory of intention. All life exists in two oceans—a gaseous and a liquid one. The organisation of living creatures fits them for these oceans, where they find their support, and specially its most important factor—breath. Each ocean is composed of gases—the liquid one of two, oxygen and hydrogen; the gaseous one of nitrogen, oxygen, hydrogen, and carbonic acid. The amount of these gases in a free, or comparatively free, state is surprising in a system where the tendency to solidify has been so great. In the moon there does not seem to be a particle of any one of them free. She has neither ocean nor atmosphere—facts clearly evincing purpose. The moon exists to reflect light. An atmosphere would darken her surface by covering her with vapour, and corroding her rocks into rust. She would be the silver moon no longer, but a magnified globule of blood. In the moon, Law, by its unchecked sway, has consolidated everything. It is otherwise on this planet. A considerable part of the earth, in both bulk and weight, is a liquid compound of two gases, and these, with one or two others, form an ocean miles in height round the world. These gases are, in part, the food of plants and animals, and they flow in never-ending eddies round the mouths that feed on them.

It is worthy of notice, also, that the gaseous ocean controls the liquid one. It lifts its waters, and collects them in heaps at will. By doing this, it maintains their healthful condition. The gaseous ocean also absorbs vast quantities of the liquid one into its bosom, carries them aloft, and, after conveying them immense distances, scatters them over its own domains, making available the elements of nurture supplied by the soil. The atmosphere is an immense aqueduct conveying the liquid element of life from its natural reservoirs into the cities of living organisms. All this takes place in the inorganic world, where the "survival of the fittest" seems to have no meaning.

Two points specially demand attention:—1. In this sphere at the line where the animal and vegetable kingdoms meet, evolution encounters one of its chief difficulties. In the atmosphere, what is life to one is death to the other; the carbonic acid which sustains the plant destroys the animal. *Query*—If the animal has evolved from the vegetable world, how is the total change of food to be explained?

2. Further, is the balance of gases in the atmosphere not evidence of a superintending providence? By the law of their nature gases mingle in fixed proportions, irrespective of their density. Were it not so, carbonic acid, which is once and a-half heavier than ordinary

atmospheric air, would sink to the earth—with what fatal result to animal life may be seen in the well-known Valley of Death in Java, where this actually takes place. Again, were the "vital" gas of the atmosphere—oxygen, not diluted by an "indifferent" gas—nitrogen, combustion would proceed so rapidly as to render existence impossible.

3. The *maintenance* of the balance of gases is no less wonderfully contrived. To it all organised beings, living or dead, contribute their share. Plants, in the fixation of carbon, send forth oxygen for the use of animals. Animals, in the process of respiration, supply carbonic acid to plants. In this, also, decomposition and decay assist. What we call "death" reappears as life. Nothing is wasted—nothing is lost.

4. Yet again, what are we to make of that wonderful constituent, the aqueous vapour? Present in the atmosphere in a proportion of little over one per cent., it yet suffices to counteract the excessive nightly radiation of heat from the earth, which, unchecked, would result in the destruction of every living organism.

To conclude: Mind demonstrates itself by employing the same agency to accomplish a variety of purposes, as well as, in other cases, by repeating the same idea. The atmosphere which supplies the breath of life to all organised beings also gives voice to nature, being the medium of communication for all intelligent creatures. Its various pulsations, again, by creating tones, give birth to music, and thus afford to man the possibility of becoming an artist, capable of delighting and elevating his race. Similarly, the fluid ether, extending to the most remote parts of the universe, is not only the instrument of the life-giving power of suns, but discloses them and all other things. It awakens the vitality of nature, paints it with beauty, and reveals it to the eye. By the same mode of action, therefore, in different fluids, intelligence is communicated to two senses—the vibrations of light giving birth to vision, those of the atmosphere to sound.

By a strange illusion of the intellect, the means of sight and hearing are sometimes represented as creating the organs of sound and vision. In this peculiar logic it is forgotten that a ripple-wave presupposes the shore on which it registers its effects. The walls that confine the ocean have been elevated by a foreign power. If there are dykes in Holland, they have been made. An expedient can scarcely originate the object to which it only ministers. If mere vibration produces such wonderful results as sight and hearing, it is by the remarkably correlated structures on which it operates. An eye, like an arm, shrivels by disuse, and, in course of time, may disappear altogether; but, in all cases, use presupposes the organ. It is impossible to utilise nonentity.

We turn now to the inorganic elements of the soil supplied for the support of life. These have to be taken up by the plant, assimilated for its own uses, and developed into food for man and beast. Of the inorganic constituents of the soil, eleven are found in plants, viz., Potassium, Calcium, Magnesium, Iron, Manganese, and Sodium, Sulphur, Phosphorus, Silicon, Chlorine, and

Fluorine. Of these, nine are either absolutely or relatively essential to both plant and animal-life. Two—Fluorine and Sodium (or Salt), serve, as has been proved by direct experiment, no purpose in the vegetable economy, but they are indispensable to animals. Fluorine is a constituent of the teeth and bones of animals—Salt is a vital necessity to them. *Therefore,* as it would appear, salt is never totally absent from plants, and sufficient proportion is found, especially in the foliage of succulent plants, to satisfy the natural craving for salt in animals directly dependent on vegetation for their support.

Now, let us ask: How comes this salt to be present in soils far inland, hundreds of miles, it may be, from the sea? The answer is supplied by an eminent authority: "One of the uses of storms is to supply the world with salt."—(Dr. Angus Smith: "Air and Rain.") The salt is brought by the travelling clouds, each vesicle charged with a precious burden, sent up by evaporation from the surface of ocean.[1] Are there no traces of a superintending Mind in this vast system of "demand and supply?"

The subject of the law of adaptation, as visible in the atmospheric conditions, might be pursued *ad infinitum.* These same travelling rain-drops not only serve the purpose of salt-purveyors, but act as scavengers, clearing the air of noxious gases, and as fertilizers, bringing down ammonia and nitric acid to the earth.[2] Arrived on the surface, they play the part of chemists. Above ground, by corrosion of the rocks and loosening of their particles, they form soils. Under ground, by dissolving the mineral constituents still further, they present plant-food in the proper state for assimilation. Pursuing their journey to the nearest river, they finally return to ocean. No single drop, however, comes back empty. Each is laden with an invisible burden of salts, held in suspension, and drawn from the rocks and surface-soil through which it has passed. In this way, in return for the salts supplied to the rising vapour, ocean receives back those necessary for marine vegetation, and the all-essential lime for the shells of the Mollusca. Thus by the Law of Compensation the Great Circle is completed.

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[1] Animals on the High Alps are said to be peculiarly attracted by salt, as if the height prevented the usual supply in the rains.

[2] According to M. Barral, in one year the enormous amount of 63 kilogrammes of nitric acid was received by a hectare of land in the environs of Paris *from rain alone.*

To return.—The arrangements immediately outside of life are met by others even more noteworthy within. The evolution of a breathing apparatus all along the line of life would be, in itself, a wonderful fact. In the lung the blood is brought into a surface, ingeniously devised for extent, and exposed to the atmosphere, to be oxydised and heated. This apparatus is connected with a system of underground tubing remarkable, at least, as that by which a city gets its water supply, and with an organ of propulsion ingeniously constructed, at least, as that at the wheelhouse. Connected and interworking with the circulation is another system of tubing, distinct from it as the gas of the city is from the water supply; and supplementing the second or digestive system is still another, as distinguishable from both as the drainage is from the other two. The formation of perforations in the system by the descent of liquified substances would be comprehensible if the animal frame were a solid mass, instead of a cavity. The hypothesis fails to explain the existence of tubes. The ascending veins, also, are a fatal objection. The course of nature by which untold millions of such complicated structures are brought into existence in each generation, is simply astounding. As no creature lives without air, how was life sustained before the evolution of lungs took place? Evolution of a living form presupposes life. Embryotic life depends on the breath of another. How was life sustained when there was no other to breathe?

As early as the days of Epicurus, the convivialist betrayed a tendency to materialism. It is supposed still by many, that the materialist, as such, is disposed to conviviality. It is he who says, "Let us eat, drink, and be merry," who says also, "for to-morrow we die"—in the sense of a final catastrophe. The *bon vivant* seems to feel that, if a Deity exist, He must bear an aspect hostile to him. The idea is a living one. Nevertheless, the Deity is kinder to him than he is to himself. The Framer of the body seems to have had some such tenant of it in view, and has interposed, as it were, to save it from the excesses of its master. No part of the animal economy is more suggestive of Mind than the glandular system. These multitudinous structures, large and small, give the interior of the body the aspect of an extensive factory, where each gland is, in its place, a living operative. We direct attention to a solitary example. No organ in a living body indicates intention more than that which governs the supply of blood to the tissues. In plants, food-supplies are comparatively regular, the roots being in constant contact with the elements of support. In men and many of the larger animals, feeding is intermittent. Civilised men take food at stated times, and the savage has often to be satisfied with an enormous meal at intervals of several days. Savage animals are regularly subject to the same ordeal. Were there no averaging organ, the capillaries would be ruptured by superfluous blood at one time, and affected with general spasm from its deficiency at another. But here comes in the spleen, an organ capable of containing a large quantity of blood which, in times of surplus, it treasures in reserve, and then pays out as the necessities of the system require.

BEAUTY.

THE beauties of nature form a middle term which brings the Divine Mind and the human into the same line. The Divine taste that creates, and the human taste that enjoys, are of the same order. In the estimation of some, taste is arbitrary, and the familiar is the beautiful. The Esquimaux, we are told, believes no country to be so lovely as his own, and would die of home-sickness were he transferred to more genial climes. The savages deported by Cartier from the wilds of Quebec actually did not live to return—the so-called beauties of Europe killed them. Such *ex-parte* statements as these, however, present only imperfect side-lights. If there are things in nature that the association of ideas cannot beautify, there are others which it cannot deform. At a time in the distant past the earth was a naked boulder, like the moon, presenting a surface of undulating rocky plains, varied at intervals by elevated castle-like mountains — some cone-shaped, of volcanic origin — others square, elevated *en masse* above the surrounding strata by earthquakes, and exhibiting the sombre colour of iron rust. Such scenes could only inspire a painful sense of desolation. Travellers in the "Desert of the Wanderings," where the idea is realised, declare that the scenery often filled them with dread. The natives of those dreary wastes, brought up in the associations of the desert, and habituated to them from infancy—betray no other taste than our own. To them a few trees is a vision of delight, the subject of constant praise, the inspiration of song to their poets. When those far-famed oases of the desert are visited by persons accustomed to our "vast contiguity of shade," they give rise to disappointment, and only seem to aggravate the surrounding desert gloom. They prove, however, that nature's "things of beauty" are beautiful to all mankind.

If the bare rocks that constitute the base of nature are unlovely, so is the clay into which they have been pulverised. The naked spots in a cultivated field are an eyesore. In fact, there is an absence of beauty in nearly the whole inorganic material of the world. This has the appearance of arrangement, studied for effect. By contrast, the transformation effected by the inspiration of life is made more telling. Germs take up vile matter, transpose it into perfect forms, and clothe it with beauty.

In this country (Canada) nature can be seen *in puris naturalibus.* Its beauties are formed by very few elements. As elsewhere, there is the ordinary over-arch of blue sky or gray cloud, but generally in the absence of a background of lofty mountains. In favoured localities, there is a large river, perhaps with a rapid, occasionally with a mighty waterfall, but everywhere there is an expanse of forest, stretching as far as the eye can reach on all sides. These, with a generally undulating surface, form the *tout ensemble* of every scene. Native forest-beauty has two characteristic elements. One of these consists in the many tall dark forms with irregular branches, which tower majestically above the forest level; the other is constituted by colour-contrast—every variety of green in waves, from the invisible green of the balsam to the pale green of the willow, meets the eye, diversified in spring by an occasional spray-like spot, which proves on inspection to be a poplar covered with pollen.

Natural forest-scenery, although beautiful and grand, is yet too uniform in its expansiveness. Its beauty is perfect, but overdone by extent. All natural scenes, like all sounds in nature, inspire melancholy and, as night gathers in, fill the mind with a sense of loneliness and desolation. Only where man is, does nature smile, and only where he is an artist, who can employ the elements at command to convert it into a picture. Man, unfortunately, does not always possess the artistic eye; consequently, many localities in this country are already so denuded of trees as to present the appearance of natural waste—thanks to human short-sightedness. The *elements* of beauty nature provides in rich abundance, but human labour and skill are needed to combine them. In natural scenes there is so little variety, that a weeding-out and localising process is necessary. As elsewhere, room is left for human enterprise and ingenuity. Divine art triumphs in the fact that man can devise no element of beauty *not* found in nature. He can only choose and combine.

Are the beauties of nature evolved? Matter constitutes the form and supplies the colours—is it also the artist? Or is it only what stones are to the mason and colours to the painter? Let us see—

(1.) A large percentage of the beauties of nature present themselves as a surface-polish. The colouring ingredients of leaves pass up the long gray shaft of a tree through its branches and twigs, and spread themselves over the top where they are exposed to view. The blossoms of all plants exhibit themselves in the most conspicuous positions. When the skin of the serpent and the feathers of the bird of paradise have been removed, their beauty has disappeared.

(2.) Painting in nature is arranged on what looks like a preconsidered plan. In the animal world, large creatures are generally uniform and sober in colour, while elaborate painting is confined to the smaller forms. A fly is minutely variegated to the extremity of every part; but in the deer, moose, lion, elk, elephant, it is otherwise. The coat of a humming-bird would scarcely add to the majesty of an elephant. Thus the sense of proportion and of what is suited to it, is preserved. The principle is expanded to embrace the inanimate world. Beyond the animal kingdom the whole canvas is covered with three colours only—the sky is blue, the clouds are gray, and all else—oceans, fields, and forests—are green.

(3.) Colour, again, has reference to habitat, and generally serves as a defence. Birds that exhibit on trees are commonly either nicely feathered, or they are songsters. Beauty, both of colour and of song, charms their natural enemies. Ground birds, on the other hand, are coloured like the soil, which makes them nearly invisible. The hare of Canada and the Alpine hare of Europe are, as we know, brown in summer, and almost snow-white in winter. Some birds emit sounds that are far from musical—these sounds are a protection. The woodpecker is seldom attacked by a bird of prey. The Canadian loon or grebe, which has wings so small that it cannot rise from its bathing-place except when the wind blows, utters a cry fitted to strike terror even into men when heard, miles off, at night for the first time.

(4.) Form—the other element of beauty, has an evident reference to function. A tree, by splitting itself into branches, presents the greatest possible leaf-surface to the air. The long neck, bill, and legs of waders, is another illustration.

Small and large, the works of God have a fair surface-finish. The minutest part of an insect is so perfect in detail, as not only to stand the test, but to increase admiration by the expanded beauty manifest under the microscope. When large masses of matter are placed at immense distances, they literally shine—the stars are specks of light. It is clearly not the aim of nature to produce perfect beauty; things are not so beautiful as they might be, and wisely is this ordained. If everything existed in perfection, man could only spoil it by his touch. Room is left for art co-operation with God. The colours are at command; the canvas also is prepared with outlines drawn by a Master, but it needs filling in. In addition to the elemental features of beauty which exist in great abundance in isolation, occasional specimens are given of the power of these features in combination. Early tradition relates that an example of art in nature was given in a "landscape garden" in the Golden Age of the world. Some choice scenes, such as the Vale of Tempe of old, and one or two spots seen in a lifetime, seem intended for the same purpose. More frequently, however, beauty is presented in nature on a small scale, as in the bird of paradise and the golden pheasant. Some of the flowering trees of all countries, again, put out their blossoms before their leaves. There is art in this. When, embedded in a surrounding mass of green, these trees become transfigured first into rose-red, then into pink, then into purest white, there is recognised an unmistakable effort after effect.

Other instances might be noted. Let us take one. The scorching suns and glare of a subtropical summer make the soft green alone grateful to the eye, but in autumn, with the subdual of heat, there is annually, in Canada, a transformation of nature on a large scale, in which intention can scarcely fail to be acknowledged.

The forests gradually assume every variety of tapestry-like designs, in which red mingles in various degrees with all the other colours.[1] It is just as if, not altogether satisfied with the beautiful displays of summer, Nature were desirous of exhibiting on the grandest possible scale, what she can do in painting before retiring to her winter rest. Her evening robe of many colours is certainly of loveliest device. Here may be recognised, in another form, the principle worked out daily in the setting sun.

PART III.

THE RATIONAL ORGANIC WORLD.

MIND.

Life and consciousness are not identical quantities. A large percentage of living substances are unconscious. In all cases, consciousness is bestowed with purpose. Unattached organisms have it; those which are attached have not. The whole animal world is conscious; the whole vegetable world is unconscious. Trees terminate in a number of brainless points, because they have no need of brains. Creatures necessitated by nature to seek their food, are endowed with intelligence. There is also in the lowest, as in the highest, forms of conscious being, an evident relation between the amount of mind and the destiny. One creature only has the conception of immortality, and his nature stands pre-eminently above all others.

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[1] Since the destruction of the maple for fuel, the Canadian forests are not so beautiful in autumn as they were wont to be.

If life and mind are not synonymous, neither are brain and mind. If the brain be the mind, self-consciousness will be the brain's consciousness of itself. A watch endowed with intelligence would be aware of its component parts. Its consciousness would be of springs, axles, chain, wheels, hands, face, figures, motion, time of day. A conscious brain would feel the molecules that compose it, and their movements. Human consciousness, on the contrary, is the self-consciousness of a spirit. Matter, when in the consciousness, is a foreign element. Moreover, the constituents of the brain are never felt—are, in fact, unknown, except to the anatomist. The ancients never spoke of the brain in connection with thought. The Hebrews located thought and feeling in the heart, and not in the cerebrum and cerebellum. The instrument employed in thinking has been discovered, and is mistaken for the thinking substance. If the brain be the intelligence, it inaugurates its career of knowing strangely by failing to know itself. In some such way as the arm is used in action, is the brain employed in thinking, the agent being consciously different from both. If the brain is the mind, at least it is not felt to be so.

Because a fevered state of the brain results in fever of the mind, and pressure suspends consciousness, it follows, indeed, that the brain and the mind are very intimately connected, but not that they are identical. Ice placed on the bulb of a thermometer puts it out of harmony with the air, but does not annihilate the independent existence of either atmosphere or thermometer.

If the mind be a material substance, its products will be material too. Thought will be manipulated by means of reagents, and the laws of criticism and those of chemical analysis will be identical. A mental conception, placed in the eye of the microscope, will reveal its inward nature, and a pair of scales will be a necessary adjunct to the laboratory of the critic. Breadth, depth, weight, when affirmed of thought, will be matters of fact, and not conceptions of the poet. Hume's celebrated and oft-quoted saying about the subject-matter of books recognises all this. We are reminded that thought is one of the "imponderables." True; but it is not manipulated as the imponderables are. Thought alone can approach thought, and handle it. Thought and matter belong to different spheres.

A book formulates itself in the mind of an author before it is committed to writing. A philosopher, let it be supposed, is anxious to know how a current of thought is generated—by what machinery, and how it is worked. Just as a person curious to know the secret of a watch's power to register correctly, as they fly, hours, minutes, seconds, would open the cases, and, by careful study, get at the source of motion and seeming intelligence,[1] our philosopher uncovers a brain, and finds to his surprise two or three pounds of pulp, and nothing bearing the most distant resemblance to thought or its manufacture. If the Creator, when He foresaw that the brain would be mistaken for the mind, had filled the cavity of the cranium with mud, a broader hint would not have been given of the true state of the case. The thinking substance is a creature of nobler mould, who fled before the analysis began. The brain is merely the tenement and the instrument of a spirit.

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[1] This is a proper place to notice the statement sometimes made in ridicule that if a watch were endowed with mind, it would attribute creation to a watch. Here mind and mere consciousness are strangely confounded—a blunder that has greatly impeded the progress of philosophy. A watch endowed with consciousness

The true inference is not accepted, because the experiment suggests a higher philosophy of the subject. Thought is the twin-sister of electricity, and the brain is a battery. Mind is brain-force, and not simply the brain. This accounts for the absence of brain-consciousness. In experience, however, a broad distinction is made between mind and thought. Thought is the product of mind, mind the thinking substance. Materialists, on the other hand, puzzled by the absence of brain-consciousness, are forced to make thought and mind identical. Their identity is not sustained by *con*sciousness, *i.e.*, compound knowledge, combining a sense of both thought and the thinking power. Thought is manifold—the thinking substance is one. The brain, not being the conscious centre of unity, it follows that the thinking substance, as well as thought, is distinct from the

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would be conscious of self only. A watch endowed with mind would reason like mind in any other organisation, unconscious of its own internal physical relations. Being possessed of a second and higher nature, it would do as theists do, attribute not "body" but "spirit" to the Divinity.

brain. The inference is sustained by the standpoint of the materialist. The position that brain-force, and not brain, is the mind, is a virtual concession of what is contended for by those who believe in mind as a world apart from matter. "In order to conceive of the existence of force, we must conceive that there is something on which it can act;"[1] is a fundamental principle of natural philosophy. In the section on Organisms, it was seen that the correlation of the forces implied the independent existence of each. Brain-force cannot create thought; it can only awaken it. Into what substance, therefore, is the brain-force propagated? At one time, light was supposed to consist of innumerable corpuscles, or sparks, projected in all directions by a luminous body. It is now known to be force acting in a vibrating medium. Electricity, like heat, probably exerts its force through the same medium. What "ether" is to light, heat, and electricity, the mind is to brain-force. It takes up the impulses yielded by the brain, and converts them into thought. Light is not sun-force merely, but vibration in a subtle invisible ether. In like manner, thought is not brain-force, but the peculiar operation of a thinking substance. Consciousness confirms the view by maintaining an eternal distinction between the mind and thought, and between thought and the brain, and by inspiring a sense of permanency in the mind. Were the brain conscious in sensation, it would be conscious of vibrations only. Vibration forms no part of mind-consciousness, because it cannot pass the gulf that divides mind from matter. Vibrations are hints which the mind, by its own laws, translates into objects of perception. When the eyes are directed out into space, a number of confused shakings are communicated to the optic nerve, which the mind takes up and translates, presenting its finding in the form of the visible heaven and earth. The substratum of thought, therefore, is not determined by the discovery that thought originates in impulses from the brain. Mind is the substance that receives the impact, and not the one that communicates it. Leibnitz defined the mind to be a monad endowed with consciousness. It is, at least, an indivisible unit. If an atom, it does not belong to the alphabet of nature. Atoms that can study the qualities of other atoms are, beyond calculation, differentiated from them.

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[1] Kirkland's "Statics:" def. 3.

The conclusion is sustained when the subject is examined from any other point of view. Mind reveals itself as a substance *sui generis*, and isolated from the matter in which it is encased. Both sight and hearing are produced by vibrations which never pass into consciousness. In hearing, the shakings reach the mind as music; in sight, as forms of nature or of art. That the conscious transforming power is distinct from sense, is further evident from the fact that it can isolate itself from the senses and rectify their mistakes. In sight, objects appear on the retina inverted, the mind presents them vertically. If the senses were the mind, this would be impossible. Moreover, the connection between sensation and consciousness is often suspended. A person living near a waterfall ceases to hear it. For hours together, the brain vibrates as in consciousness, and yet is not conscious—Why?—Simply because it is not the seat of consciousness, and the force it discharges is not mind.

Butler's celebrated argument is conclusive on the same point. The matter of the brain is ever changing. In cycles of considerable brevity there is a total replacement of substance, but no corresponding change in the consciousness. From infancy to old age, mind is consciously identical. A murderer returns after many years to the neighbourhood where his crime had been committed. By a strange infatuation, he is led to visit the spot where the foul deed was done. His foot catches in the rope he had employed to strangle his victim. This brings his crime so vividly to mind that he gives himself up to the authorities. At so late a date there is not a "molecule" of the murderer left. Other atoms have taken the place of the guilty ones; but he does not think so himself; nor do the authorities. They hang him.

The phenomenon of dreaming is also a proof of mind. In the peculiar restful condition of the nervous system involved in sleep, the mind lives and revels in a world of its own. So completely are the senses suspended, that they fail to correct its mistakes.

A phenomenon often connected with the fatal termination of disease is also in point. In a considerable majority of cases, the mind of the patient assumes extraordinary vigour as the hour of dissolution approaches. The improvement is so marked often, that interested watchers are led to expect immediate recovery. The apparent recuperation, however, takes place just when the reactive force of nature has expired, when the system has retired in hopelessness from the struggle for life. As the electric spark reveals itself in flashing from a cloud, the human spirit reveals itself as it flashes into eternity. In Job, as in many others, disease only strengthened the consciousness of immortality.

Men, whose profession leads them to operate on mind by considerations drawn from another life, find their difficulty, strange to say, in the effort to inspire a sense of mortality. Every one believes every other person mortal but himself. Except in the article of death, very few have an impressive sense of their own future dissolution. The mind is strong in its own consciousness. All things change; it changes not, and a sense of immortality is begotten. The idea is too brilliant not to be true. Like the sun, it demonstrates itself by its own bright light. It has its roots in the power of an endless life; only an immortal could conceive it. The conception is confirmed by all the surroundings of the human spirit. It is impossible to look out on the sky in a cloudless night without feeling that birth has been—not into a world—but into a universe. The stars are just near enough to give hints of better worlds held before the eye of hope.

From a scientific point of view, the "accumulating" instinct in man is remarkable. If the beaver makes its walls unusually thick, and the squirrel lays up an extra stock of provisions, a long winter is betokened. There are men who have wealth enough stored up to last them for ever. Still they go on accumulating, even in old age, and with apparently the more anxiety, the fewer the human links that bind them to life. Men, whose philosophy makes them believe in instinct, explain such facts by the "association of ideas." The association of ideas, however, does not explain the fact that man alone can make such immense accumulations. Both the instinct and the possibility point to a state of things that has passed away, like customs still in force after the circumstances giving them birth have been forgotten. They indicate a consciousness of bodily immortality. Men still look to the future, but circumstances having altered, they are found not to look far enough. A material world constantly passing away obstructs the view. Provision is still made for a future, but by change of circumstances the stores are not of the right kind. Because other creatures die, death is said to be the debt of nature. The inference is strange: How could man be immortal except by the death of other creatures?—He lives by the death of other things. Human death, therefore, is evidently an infraction on nature, and cannot involve the extinction of the spirit. In nature there is a universal tendency to a harvest. It would be strange, indeed, if the machinery of a world should run for ages, to be finally extinguished, and to leave no result. But—if untold millions of spirits become trained for immortality, things exist not in vain. Human faith in both the isolation of mind and its immortality has been exhibited by universal adhesion to the doctrine of separate spirits. On no other subject have the men of all ages and countries been so unanimous. It is not philosophy that laughs at the universal convictions of men, but science, falsely so called.

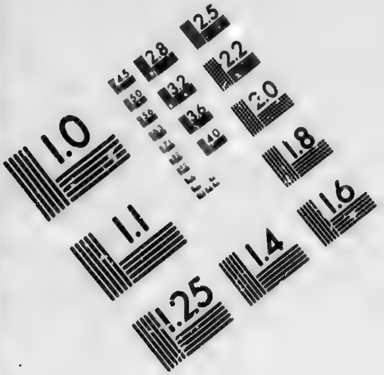
In Theism, the evidential value of Mind cannot be over-estimated. As every one is conscious that in the not far distant past he had no being, each is self-evidence on the fundamental difficulty—Creation out of nothing? Ability to comprehend the works of God proves the creation of man to have been in His own image, and nature to have been the product of Mind.

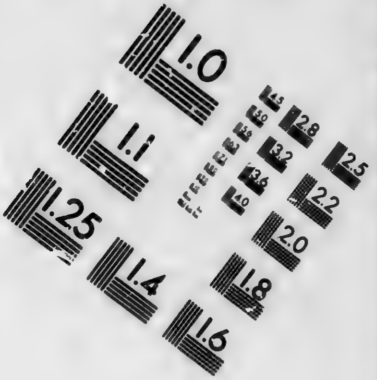
A CRITICISM.

The alternative of materialism has been stated in round letters in the section just concluded. Mind is either the brain, or it is brain-force. Materialism generally oscillates between the two. It cannot be the brain, because the brain fails to register itself in the consciousness. It cannot be brain-force, because force becomes force by the substance on which it acts. Nerve-discharges presuppose the conscious power that transforms them into thought and feeling. As Mr. Darwin has been made the accepted representative of the evolution of living forms —to Mr. Spencer it deservedly belongs to represent the evolution of mind. Comparative oversight by Mr. Spencer of the cellular character of living tissues vitiates his definition of life, and makes his "Principles of Biology" valueless as an exposition of the subject. On this account, no notice was taken of the work in the sections on the organic world.

In one respect, Mr. Spencer and Mr. Darwin resemble each other very noticeably. They are both characterised by an extraordinary memory for details, combined with a patientful power of minute protracted reasonings. They resemble each other in another respect. In nature's division of labour, more than one distinguished gift is seldom bestowed on the same individual. The bird that sings is a weakling; the bird endowed with strength is unendowed with the gift of song. A phenomenal memory is seldom accompanied by the keenest perception. The laborious collector of facts is not always able to penetrate their full meaning. This is conceived to be the case of both the distinguished authors named. In all their writings, they appear weighted with a mass of facts beyond their strength, often submerged, to reappear anon in bewilderment, and generally with their faces averted from the truth. Conclusions are commonly the reverse of what the facts warrant. This bewilderment is very conspicuous in many parts of "The First Principles of a New Philosophy."

In another respect, however, Mr. Spencer and Mr. Darwin are the antipodes of each other. Mr. Spencer seems totally devoid of the form of the imagination which is the source of humour. An undercurrent of drollery, on the other hand, ripples in every sentence of Mr. Darwin's writings. With unconcealed amusement, he tells men, proud of their pedigree, that they are of identical parentage with the ape. In his work, "On Expression in Men and Animals," there is raciness in the calm pleasure with which he marks the play of the little muscles that lie round the





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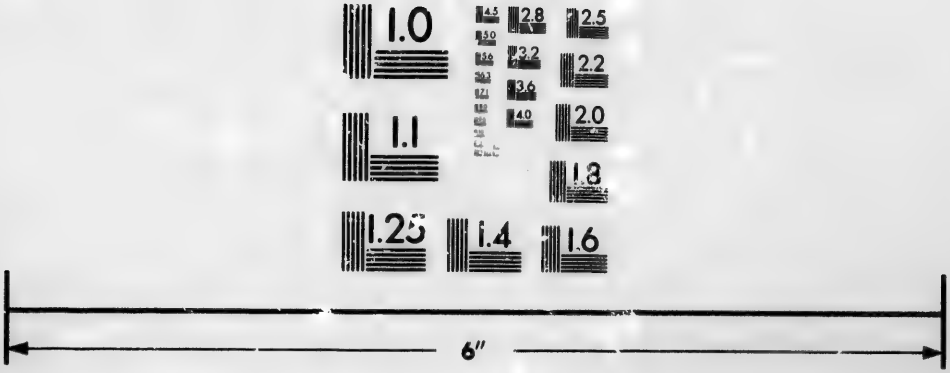

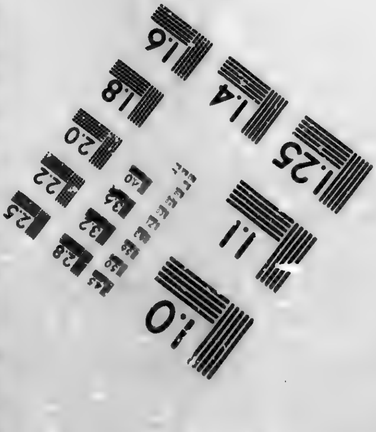

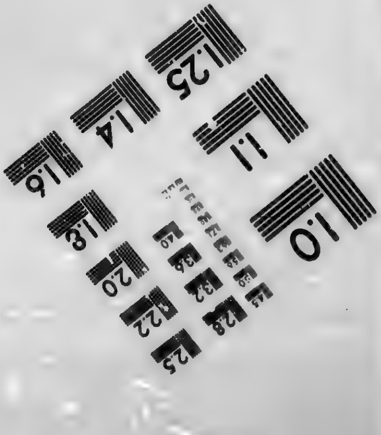

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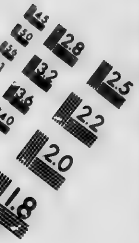
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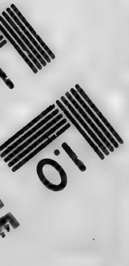
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mouth and eyes of a beast, and points to them as incipient developments of the same movements in men. In the whinny of a horse he hears the partly-evolved laugh of a human being, and in movements on the lips of a dog he recognises the prototype of a human smile. Mr. Darwin's ideas were realised by himself. No such impression is created by the perusal of Mr. Spencer's writings. If his reasonings on the identity of the nerves and the mind had been conducted with letters of the alphabet, their power to generate a conception in himself of their true purpose could scarcely have been less. The gravity with which he puts up a monstrous thing like the brain as the essence of a human being, might be amusing, were it not horrible. In nature, the brain and nervous system are paralleled in aspect only by abnormal growths. They present the appearance of things seen nowhere else except bottled on shelves in medical museums, or among animal embryotic substances. Fortunately for the age, the number of readers who are able to realise all the ideas that lurk at the back of words is very small. If the impression materialistic writings tend to create were fully received by the public, the bonds of society would be destroyed. Self-respect and respect for others are the inspiring source of practical ethics. Destroy them, and man becomes the enemy of his kind. Convince men that the "human face divine" expresses not the qualities of a noble spirit, but is a mask that hides from view a thing of monstrous shape and aspect —that converse with a friend is fellowship with an eyeless, earless monster, fit only to be kept out of sight—and everything like mutual respect vanishes from the earth. Through atheistic writings before the Revolution some such idea must have seized the French imagination, and led to the horrors of that fearful time. If man in his essential nature be the abnormal thing materialists represent him to be, he is an object of disgust—fitted to inspire the wish to extinguish him. From the bosom that fully realises the materialistic conception, everything like human sympathy must have vanished. As the instrument of mind, the brain holds an honourable place; as the mind itself, it is a thing of horror.

It may be supposed by some who have read his writings that Mr. Spencer affirms the existence of a distinction between mind and matter. His views on the subject are obscure, because it is impossible to hold the materialistic principle consistently throughout. The transition from matter to mind is made even by the materialist, when he treats of mind. Unconsciously, Mr. Spencer often forgets that he is a materialist, thus demanding concessions that cannot be made to him. It seems inconsistent to have written volumes to prove that all things evolve from matter, and then suddenly —when the copestone is about to be placed—to admit mind as a separate entity. On one supposition alone is the position somewhat defensible. Mr. Spencer probably regards the mind as an elimination from matter, such as caloric was, and the "fluid" electric is supposed by some to be. Perhaps this is what is meant when mind is called the "subjective" of the brain and nerves. Thus, mind is the glowworm light of the nervous system—an aspect which may give it beauty in the estimation of some.[1]

Mr. Spencer's philosophy appears to be a compound of the "common-sense" philosophy and that of Spinoza. He is not altogether unwilling to admit a nucleus of both mind and matter, about which the qualities of each cluster; but, as nothing is known about the "nature of substance," "matter may be mind" or "mind matter," or they may have a "common root." Of the possibility of a common substratum of mind and matter, we treated in the section on Pantheism. The Philosophy of Spinoza results in the Psychology of Hume. They who can conceive of impressions in the abstract, with nothing to impress or to be impressed, of ideas without subject or object, may see a deep meaning in the language of Mr. Spencer.[2] To all men in a state of sanity, matter and mind are so distinct that neither can matter be conceived of "in terms of mind," nor "mind in terms of matter."

The nature of knowledge will always be a blinding puzzle to persons disposed paradoxically to rest at the extreme point to which mental ingenuity can carry the "relativity" of knowledge. In the eye of intelligence, because it is intelligence, both matter and mind are

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[1] Mr. Spencer is so full on all subjects treated by him, that it would be an injustice to quote isolated sentences, or even to refer to them. In order to verify this criticism, it will be necessary to examine a considerable part of "Principles of Biology," vol. i., and of "Psychology," vol. i.

[2] "Principles of Psychology," part II.; "The Substance of Mind."

"absolute"—mind is a conscious mirror that knows itself and the objects that present themselves for reflexion. It differentiates itself from matter by holding the whole material world outcast. If sensation be the raw material, substance thus differentiated is the completed fabric; if it be the evidence, it is the conclusion; if it be the alphabetic sign, substance is the equation. The mind refuses to believe in the relativity of its knowledge, even where some degree of relativity is supposed to be demonstrable. The conviction is justified, because, were it not for the "absolute," even in such cases the relative could not exist. The mechanic who has spent days in polishing a piece of furniture cannot be persuaded that "finish" is all in the eye of the beholder. The absolute bulks so largely in every sensation, that a substance whose very nature is intelligence must admit its determining presence. In this controversy, too much importance is attached to the interior nature of substance, or of the unknown substratum of things—a matter of no consequence whatever. It may be allowable to call substance "persistence," or anything else, but the truth is understated, when persistence is affirmed to be the all-important thing, or is even unconsciously supposed to be so.

In the material world, especially, relation is the grand fact. Who would think of withholding admiration from an article of chaste design because he did not know, nor could find out, the nature of the materials from which it was made? The works of the Creator are conformed to this standard of judgment. The intimate nature of the materials employed can be a question of importance in one respect only—Do they perform, and how do they perform—well or otherwise—the work they were devised to do? Does matter serve the ordinary purposes to which it is applied? Does it accomplish its end as a revelation of God? The collocations of matter in solar systems and in individual masses indicate infinite mechanical skill. Chemical compounds, such as the primitive rocks and living bodies, display ingenuity of a supernatural order. Atoms, by their adaptations, evidence both creative power and wisdom. Reason demands no more. No one would refuse to acknowledge the design evinced in a steam-engine, because he did not know whether it was made of iron, or of steel, or of some unknown compound lately discovered. Knowledge of the intimate nature of substance would satisfy an idle curiosity; it would add nothing to the argument of creation. No mistake was made in keeping substance and the mode of its manufacture profound secrets. *A propos* of this view, when the relativity of knowledge is discussed by materialists, matter becomes a filmy something, too attenuated to bear the touch of thought. When it is advanced as an evidence of Deity, it becomes a dense mass, whose creation is "inconceivable." Let it be observed here, that conception is not always the measure of truth. Mr. Spencer cannot conceive of a Creator collecting materials to form compounds—a thing done by chemists every day.[1]

As Mr. Spencer connects the evolution of mind with that of life, it is necessary to revert briefly to subjects already discussed. There is no additional light in the supposition made by Mr. Spencer that matter is of one species. The idea is unworkable. A variety of combinations can be formed out of a few elements; but it is inconceivable that they should be formed out of one. A Being of infinite power can compel combinations impossible to men. Still there must be a limit. Possibly, the compounds of oxygen and nitrogen represent the utmost extent to which even two elements can go in the formation of new substances. The unity of matter is a supposition sustained by no evidence. Even were it proved, mind alone would account for the wonderful design in atoms.

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[1] "Creationism;" (Biology, vol i).

In the "Principles of Biology," life is defined again and again as "the correspondence between internal and external relations."[1] The definition involves the radical defect of putting the facts of life for life itself. The description is as applicable to a windmill or a ship with its hull, masts, stays, yards, sails, and ropes, as it is to life. The potency that sustains, as well as creates, the correspondence is left out of view. Quite accidentally, when discussing a kindred subject in another volume, Mr. Spencer approximates much nearer to a true definition.[2] He refers to a creature so simple in structure as to consist of a single living cell that forms its substance. This touches the very marrow of life. Nature's working idea is a cell endowed with power to multiply and preserve itself. Physical life is the potency of living cells. Conceived as a correspondence between internal and external relations, the ground-factor is overlooked—the operating cause.

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[1] "Biology," vol. i., part I.

[2] "Principles of Psychology:" (General Synthesis).

Incorrect here, Mr. Spencer is correct on the most important point connected with this initial subject. When discussing the question of "function" and its relation to structure, he identifies life with function, and homologates the principle that function is the cause of structure, and not the reverse. No compound of the chemist or of nature, therefore, can assume life as the result of complication. All living structures have been produced by life. The corollary of Mr. Spencer's position is "creationism." In accounting for the origin of life, Mr. Spencer further presupposes the existence of materials—nitrogen-compounds only produced by life. Mr. Spencer never met with any creature without reproductive powers. Did he ever meet with any creature that was not itself a reproduction? If inorganic matter produces life, the existence of such a fact cannot surely depend on conjecture.[1]

A Being of infinite power and manifold wisdom would scarcely have satisfied Himself with creating "a granulated creature, undistinguishable from the surrounding inorganic matter." The love of variety, as well as the necessity of self-revelation is characteristic of all mind. The Deity must be glorious in everything He does. To have created a world to be occupied exclusively, even for a time, by such a tenant would have been not only absurd, but a mistake. No better plan could have been devised, had the object been to entomb Himself in His works. The fact that evolution tends to agnosticism, settles the point.

The principles that underlie the science of physiognomy would suggest that, in all orders of creatures, the body is a comparatively perfect expression of the mind within. According to disposition, animals may be ranged in three classes:—the selfish, the domestic, and the gregarious. The selfish are small and ugly generally, the domestic have elements of beauty, the gregarious are generally beautiful. Judging by experience, the selfish can never become domestic, nor the domestic gregarious—because man alone is able to adopt a new moral character. Against "creationism," Mr. Spencer points to the facts that all creatures suffer and perish; that some of them have destructive dispositions, while there are others whose function is actually to torment. A Creator, he argues, would be freed from the responsibility of such things. Mr. Spencer forgets that, even a Creator might regard such minor virtues as order and cleanliness, of sufficient importance to ordain stringent measures for their enforcement. On death, it may be remarked, that animals are purely sensuous, and therefore have no valuable moral element worthy of preservation. The lesson is verified in history. Sensuous nations are fit only to be the prey of other nations. As man can adopt a new moral character, the Bible rationally attributes his death to the lapse into sensuousness.

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[1] "Principles of Biology," part i.

In establishing the evolution of life, Mr. Spencer depends chiefly on the gradation of forms, as if a minute description of the ascending hierarchies were all that was necessary to demonstrate the upward movement from lower to higher types. This cannot be admitted. Life is a vital unconscious instinct. If vital conscious instincts are unchangeable—if the bee forms a cell of identical pattern, and the bird a nest, from generation to generation—far less will the unconscious instinct change. It is impossible to believe that creatures whose nature assimilates food in one particular way, will ever assimilate it in a totally different way by building it up in other forms. This presents the insuperable difficulty of evolution. Change of circumstances alone could even temporarily inaugurate change. In the case of the most primitive creatures change of circumstances is death. Thus, the first step of progress is impossible. It is not surprising, then, that the foraminifera to-day are what they were at the beginning of time.[1]

Very much dependence is also placed on comparisons drawn from evolution in other departments: (1.) *The division of labour in society.*—In undeveloped life, every part of the body performs all its functions;[2] by-and-by an organ is generated for each function. In addition to the impossibility of accounting for the novel crystallisation, however, it is overlooked that evolution in society is the work of mind. (2.) *The evolution of language.*—If possible, this illustration is still more unfortunate. That the primitive languages were ideally perfect in structure at so early a date, may well be held to demonstrate their Divine origin. Evolution has destroyed their perfect symmetry, and created vast agglomerates of words. Even those who are not prepared to admit that language was given to man in its perfect form, tell us that roots, the groundwork of language, are simply "ultimate facts." These facts cannot be explained away. "We might say with Plato that they exist by nature; though with Plato we should have to add, that when we say by nature, we mean by the hand of God."[1] The essential elements of language are like the essential elements of nature—they cannot be added to. No man has ever invented a perfectly new word. Human speech is not evolved from the cry of the beast, or the song of the bird. These last are the same now as when they echoed through the primeval forest. Human language alone in its growth, maturity, and decay, shows the action of Mind—whether Mind human, or Mind Divine.[2]

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[1] Huxley: "Lay Sermons; Geological Contemporaneity and Persistent Types."

[2] This dictum of evolution is simply false, as absorption alone is performed.

Growth approximates more nearly to a parallel case. Evolution is, in fact, growth generalised. Individual structures develop from a primary cell, and pass through various phases of existence in the transition to maturity. The comparison unfortunately fails in the main point. Organisms have their increment by fixed laws; a germ goes to work in a definite manner, and approximates more and more to a settled pattern. Any number of germs of the same kind evolve substantially the same forms. In evolution it is otherwise. All along the line, from the "protogenes" to the mammoth, there have been marked deviations to the right and left. In the effort to realise the human type, what a rush past the mark was made by the whale! The miscarriage becomes also very apparent, when the picture of a man is placed in juxtaposition with one of an elephant. In growth, no such mistakes are made. When they are attempted, nature refuses to perpetuate them. Evolution supposes the propagation of every possible anomaly.

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[1] Professor F. Max Müller: "Science of Language," I. p. 439.

[2] **The Origin of Language and the Evolution Theory.**—"Where, then, is the difference between brute and man? What is it which man can do, and of which we find no signs, no rudiments in the whole brute world? I answer without hesitation: the one great barrier between the brute and the man is *Language*. Language is our rubicon, and no brute will dare to cross it. This is our matter-of-fact answer to those who speak of development, who think they discover the rudiments at least of all human faculties in apes, and who would fain keep open the possibility that man is only a more favoured beast, the triumphant conqueror in the permanent struggle for life. Language is something more palpable than a fold of the brain, or an angle of the skull. It admits of no cavilling, and no process of natural selection will ever distil significant words out of the notes of birds or the cries of beasts."—(Professor F. Max Müller, *op. cit.*, vol. I., Lect. ix.; On the Origin of Language.)

The evolution of life and of mind is said to "run in parallel lines," if it is not an "identical process." Mind is so intimately connected with the nervous system that the evolution of the latter is said to be substantially the evolution of the former. Mind has no existence "separate from nerve action."[1] As defined by Mr. Spencer, mind is "a higher correspondence between internal and external relations." More closely described, it is "feelings and the relations among feelings." It was Hume who taught men to believe that qualities could exist in the abstract. If they can, whence the constant seeking after substance by philosophy? Even Mr. Spencer cannot rid himself of the idea, as appears in his "common" substratum of mind and matter. As a question of fact, does the abstraction, "feelings and the relations among feelings," fill up the idea of mind? The definition is taken from the consciousness. What the mind is conscious of, it is said to feel. *Con*sciousness, as the word implies, is not simple, but compound knowledge. As a feeling, it embraces two feelings—a subject and an object. The object constantly changes, like the views in a kaleidoscope, the subject or the kaleidoscope remains constantly the same. One element of consciousness is present in all states of consciousness—the conscious self. But not only does the mind differentiate itself from the object of thought—which may be immaterial—it also differentiates itself from the whole material world by placing it external to itself. The finding is verified by the closest examination of the subject. Mind and matter are characteristically different. Matter undergoes and produces change by motion. Even nerve-action is by motion. The result of nerve-action on the mind is—not motion—but feeling, which is a totally different thing. If the mind were material, the lamp pendants of the saloon in a storm at sea would represent a state of consciousness. Surrounded in its perceptions by a universe in motion, the mind itself is unmoved as a "sea of glass." In producing effects, it acts not by motion but by fiat. The distance, therefore, between the conscious and the unconscious is infinite.

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[1] "Principles of Psychology," part I.

The abstract definition fails to explain the characteristics of mind. It passes the mystery of consciousness by, as if it were, undifferentiated from a muscular contraction.[1] The substance that feels, unmistakably reveals its supernatural character. It penetrates through the nerves to the cause of feeling, and locates it outside of the body.

If mind be "feeling," it is the mere "subjective of nerve-motion"—a conclusion Mr. Spencer fearlessly affirms. Thus explained, the definition fails to account for the

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"Principles of Psychology," part I., "The Data of Pyschology."

manifestations of mind—*memory*. When a nerve-shock has passed off, the "isomeric equilibrium" of the nerve-matter is at once restored, and there is left as much trace of the state just passed as there is of a ship on the sea. It is impossible also on scientific principles to comprehend how future motions can recall the past. No identical motion can ever take place. Any future motion will generate its own feeling, and not that of another motion. Especially is it impossible on Mr. Spencer's principles to explain the function of language. An object vibrates in the eye, say a horse; the word "horse" is pronounced, and strikes the ear. By what law does the word *horse*, when pronounced, produce the vibration of the optic nerve that represents the visible object? Language evidently implies a power behind the nerves that associates sensations and recalls them. Materialism mistakes the belting for the wheel.

The definition fails equally to explain comparison and judgment. Two objects present themselves to the eye, say a tree and a shrub. Each produces the change in the optic nerve that is followed by perception. But there is nothing extant to produce the third motion in which a perception of relation consists. A judgment, therefore, is clearly the act of a higher nature.

The materialistic theory, as expounded by Mr. Spencer, fails especially to explain the Will. Will, we are told, is "the suspension of nerve-motion, caused by two or more currents coming into conflict, till one of them gain the ascendency."[1] This is consistent. Mind is the passive

[1] "Principles of Psychology," part IV., "The Will."

conscious spectator of nerve-motion, or rather of its results. It follows conclusively that the business of the world in all departments would be carried on as at present and equally well if men could neither see, hear, feel, taste, nor smell. "Mind is a higher correspondence between internal and external relations." "The internal relations" are the nerves. Sensation in its various phases is the "subjective of nerve-motion"—a mere incident or accompaniment of nerve-movements, and, therefore, cannot possibly control them. If in any case "feeling" run ahead of nerve-motion, arrest it, and initiate it anew, it is independent of nerve-motion. As described by Mr. Spencer, mind is borne on the nerves—a John Gilpin, and the nervous system is John Gilpin's horse.

Mr. Spencer, however, makes a distinction between "automatic" and "voluntary motion." He does, but in entire inconsistency with his own system. Evidently confused by the complicated character of his own reasonings about "compound" and "double compound nerve-movements," giving rise to "compound" and "double compound feelings," Mr. Spencer imagines that an accumulation and involvement of feeling has been created of sufficient amount to change the relation between nerve-motion and feeling. In this he is mistaken. The principle of the "unit," so well expounded by Mr. Spencer, must be the principle of the sum.[1] A stream cannot rise above its fountain. If feeling can put an arrest on nerve-motion, or initiate it, its subject is independent of the nerves. Mr. Spencer cannot hold both horns of the dilemma.

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[1] "Principles of Psychology," part I.

In opposition to the materialistic view, it is evident that the nervous system is an instrument as truly as the muscular one. The muscles move the bones, the nerves the muscles, and the mind moves all. It employs the brain and nerves as the hand employs a staff to feel and act. Apart from intelligent control, the body could not exist. The very fact that the nerves feel at one time, and not at another—that some of them, when in use, produce feeling, and others do not, proves their instrumental character. Feeling is intelligence; it is the light by which the organism is guided. The internal nerves that perform their ordinary functions without feeling, produce intense feeling in case of threatened injury. The body, as the instrument of mind, must be kept in "repair." Ability to perform its office depends on health. Tools must be kept in order. The nerves notify internal and external danger. Both health and sickness register themselves in the mind. When materials are needed to supply waste, there are hunger and thirst. When anything, either advantageous or disadvantageous, appears in the environs, it is notified. The nerves are sentinels of the mind. Concurrent with this view, the largest ganglion forms the apex of the nervous system. The object of a ganglion is "to multiply and forward nerve-motion." The large bi-lobed ganglion—the brain, has no further] visible connections, although covered with "gray vibrating matter." Evidently its object is to send on intelligence, and receive commands from the mind, one lobe probably being related to the understanding, the other to the will.

The evolution of the senses, or the development of eyes and ears from the skin, is a conception so unique as to be met only by doubts thrown on the position on which it is made to rest. The "unit" of sensation is a nerve-shock. Every sensation like a tone in music is produced by "a number of shocks very rapidly repeated." This is true of all the senses. Mr. Spencer forgets that the "isomeric equilibrium" can be restored not oftener than "sixteen times per second." All tones and sensations, therefore, are felt when the nerve-matter is out of equilibrium, proving that sensation is not the result of molecular motion.

MORALS.

MIND receives impressions from mind, and not from matter only; from its own consciousness, from finite minds, by intelligence, and from the Divine Mind by spiritual impact. The intercourse of finite minds is carried on through vibrations, which are converted into ideas. They are the result of spoken words, addressed to the ear, and of written words and other signs addressed to the eye. In each case the operation connected with perception is repeated, and hints are transubstantiated into conceptions. Words are not expressive of sensations only; in every civilized language a majority of them are associated with states and operations of the mind. In the conception of Will, there is an illustration. A stone falls and wounds a passer by, another is thrown and does the same. The former creates pain only; the latter creates pain accompanied by indignation, because it awakens the conception of Will. The object is purely mental. In the conception of Will resides the germ of moral ideas.

Thought, feeling, purpose, action, may synchronize with molecular motions in the brain. In some mysterious way, thought may in every case be produced by motion in the nerve-matter, as sensations are. But molecular movements are not *identical* with thought and feeling. (1.) The changes in the brain are outside of the consciousness. If molecules in motion were mind, molecules in motion would know it. At least, molecular motion is not known to be mind. (2.) If molecular movements take place while mental processes go on, the fact can be explained without supposing the brain to be the mind. Mind is incarnate in every conscious creature. By the intimate connection, knowledge of matter is obtained through the bodily organs. In consequence of the compact union, there is mutual action and reaction between the body and the spirit. Joy, grief, shame, register themselves in the face. Mental strain gorges the capillaries of the brain. But effects must not be mistaken for causes. Because the face blushes in shame, it is not, therefore, the mind.

The connection between volition and action is direct, as that between cause and effect. If consciousness of the free exercise of power could be obliterated, it would countenance the molecular theory. Consciousness verifies the existence of a detached lever acting between the brain and the arm. Volition is only part of the complicated machinery of the will. Co-related to action, are three faculties often confounded together—desire, deliberation, volition. Deliberation and volition are the legislative and executive faculties of the mind. Desire and volition in an ill-regulated mind are in contact, like the cogs in a piece of machinery. Motion in the one determines motion in the other. This is mind with its faculties in abeyance, not mind in its normal condition. When there is desire in a mind with all its powers in play, there will be deliberation about the legitimacy of the object, the wisdom of seeking it, the means to be employed, the prospect of success, and the proper time of action. Even when the subject has been legislated on, action often does not immediately follow. Weeks, months, years, may pass before the opportunity come; or the work of a life-time may be in question, involving a long series of voluntary acts, as in the choice and prosecution of a trade. A conscious, wise, permanent conductor occupies a place between the molecular movements antecedent to desire, and the acts of volition. This conductor is Mind, and not a thing created by associated intermittent flashes of brain-force. So necessary are freedom and deliberation to moral action, that Mr. Spencer in "Data of Ethics" simply postulates them, as Spinoza did before him, although out of all consistency with their system. To affirm of matter in any of its forms, the complicated operations connected with deliberation is simply impossible.

Every account of the nature and origin of moral ideas will embrace some element of truth. It cannot be otherwise, from the essential thoughtfulness of mind. No one able to invent and expound a theory will fail to seize on some aspects of the subject which have facts to sustain them. Mr. Spencer, like thousands before him, saw clearly that morals and utility were in very close correlation; but failing, as others also did before him, to discover the originating cause of moral distinctions, he makes the very great mistake of confounding conscience with *habit*. Men do not feel obliged to do what they are in the habit of doing. Often it is the opposite. The true theory, if ever discovered, will embrace the truth contained in all others. In the earnest desire of contributing something to the advancement of moral science, the following positions are submitted:—

(1.) If beings were unsusceptible of the feelings of pleasure and pain, or were incapable of injury or benefit, there would be no such thing as right or wrong. Our moral relations are to sensitive existences, and not to stocks and stones.

(2.) Our own susceptibility is a standard by which we learn to determine the value of actions. By every act terminating on ourselves, an impression is produced, and by this impression its quality is decided. One kind of action inspires satisfaction, another rouses indignation, and conduct is rated accordingly as good, bad, or indifferent. In good actions there is the conception of intentional benefit; in bad, of intentional injury. The various classes of good and bad actions originate in the many-sidedness of human life, or from the various ways in which intentional injury and benefit may be produced. When the intended action does not take place, there is the conception of goodness or badness in the intention. Every mind is a register of moral quality, feeling every blow, and determining its moral quantity. The mind is sensitive as a thermometer, and, therefore, fitted to be a standard of moral values. If sons of God, as they are said to be, men could have no greater sense of personal dignity, nor appreciation of what they deserve from others. Each person expects every other to treat him in conformity with the law of love, which demonstrates this to be the rule of moral action. The slightest intentional oversight or inattention produces acute pain; intentional injury fills the mind with indignation. In the very earliest period of life—individual and social, physical penalty is associated with wrong. The idea of returning pain for injury is as perfect in the mind of a child as in that of a patriarch. Wrong and physical punishment are natural moral correlates. It is the ability to judge of the moral character of actions in very early life that suggested the idea of a moral faculty, or innate monitor of right and wrong. Of all attempted explanations of the origin of moral ideas, this is the most excusable. In early infancy, children have learned to distinguish right from wrong, and the supposition of an innate moral instructor was almost unavoidable. The glass-house in which every mind lives, creates susceptibilities that qualify it as a moral standard. A child does not live long before it gets impressions of wrong by suffering it. It soon learns the evil of lying by being belied, and of theft by the larceny of some article. Men who have suffered a specific wrong have always a keen sense of the moral turpitude of the wrong in question.

The feeling of wrong always associated with a sense of injury arises from the essential dignity of both the injuring and injured parties. When one animal kills another, no one feels that a murder has been committed; when a man kills a man, it is a capital offence. To plot injury to the person of a monarch is treason. It is the essential majesty of God that makes disobedience sin. In all cases, personality determines the degree and quality of the act. It is on account of the essential sacredness of the human nature that an injury, inflicted by one who himself feels the sacredness, becomes a wrong. A feeling of solidarity among minds lies also at the root of moral obligation. Society is consciously a body, each member being so united with every other by the instinctive love of kind, that when one suffers injury, all suffer. The conscious relationship manifests itself in a sense of the rights and wrongs of others. Injury to another awakens feelings like those arising from personal injury. Murder fills a community with rage. The solidarity of mind has its complete type in the family. Insult or injury inflicted on one member is avenged by the indignation of all. The corollary of this solidarity is moral obligation. What others must not do, we must not do. At the same time, except for the power of feeling injury, we ourselves could not estimate the injuries of others: moral distinctions must rest on the rock of Being.

(3.) First lessons in morals are fortified by experience. When an action which makes the recipient indignant is inflicted on others, it will probably react in the form of a blow with an indignant will behind it. Each judges by the same standard, is pleased or irritated by the same class of actions, and each in turn becomes a practical moral instructor. The respect of mind for mind, which often amounts to dread when wrong has been committed, is the all-important element of conscience. No complete theory of morals will overlook the fact, that original thinkers, like the Greeks and Romans, employed a word compounded with the conjunctive prefix to name the moral faculty—*sune*idesis, *con*scientia, and that their example has been followed by the enlightened nations of the modern world. It is knowledge *together with*. Perhaps, in every case, conscience embraces the conception of another. It has been called "knowing with one's Self." They who formed the word probably understood the matter better than their commentators. They were not bewildered by a false metaphysical system. In receiving injury, there is consciousness of the wrong-doer; in inflicting it, of the injured. An accusing conscience in every case involves the dread of other minds. That the writers of the New Testament held this view is evident from such an expression as διὰ συνείδησιν Θεοῦ.[1]

(4.) Public opinion is a deposit formed by the individual lessons of ages. The friction of mind creates a common standard. Public opinion is a crystal formed by contributions from all the individual elements of society, past and present, and is in all countries a powerful moral instructor. Living alone, man becomes a savage. Out of society, conscience loses tone, because one of its powerful factors is wanting—the sense of outside mind. Respect for public opinion is a predominating element in the conscience of most men. Conscience cannot altogether die out even in the savage, because he comes into being member of a family. The very irritability of savage parents creates a moral code. At the most petulant age, the child of a North American Indian is bound fast to a board. The treatment determines the complexion of the American Indian character—the poor passive child is the father of the future stolid man. The power with which a Roman father was endowed prepared the Romans for their place in the world as teachers of law and discipline. The family is the first and smallest circle of public opinion, and has the root of civilization in it.

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[1] 1 Peter ii. 19.

The State is the public in a corporate form. It enforces the moral conceptions of society by pains and penalties. Not having penetrated to the bottom of the subject, Hobbes erred in supposing the State to have originated moral ideas. Although not the source of moral distinctions, it is a powerful enforcer of moral lessons. To the criminally disposed, it supplies the second element of conscience exclusively. The civil magistrate is a "terror to evil doers."

(5.) The Divine Mind is in the sacred circle of the solidarity of minds. God can never be permanently eliminated from a single consciousness. In a greater or less degree, He is the external element of conscience in all. He cannot suffer Himself to be forgotten. Of direct Divine moral teaching there is abundant evidence in history. Although educated in atheistic principles, John Stuart Mill, at twenty years of age, underwent the conscience experiences of one of Whitfield's or Wesley's converts, Charles IX. of France died of *mal de conscience*, although the whole world in which he lived persuaded him that he had performed acts of extraordinary merit. The Theban Œdipus, living in an age when might was the undoubted measure of right, put out his eyes and gave his kingdom to his sons in atonement for his sins. Not many months after the celebrated atheistic statement was made at Belfast, in presence of one of the most distinguished assemblies of the world—the British Scientific Association, an unknown preacher of divine truth, from the United States, drew audiences nightly in London, of eighteen and twenty thousand. So it has been; so it will ever be. Faith in God can never be obliterated.

Conscience is one of the points of divine contact with the world. Through it, society is governed from heaven. The absolute standard of right and wrong is in the holy of holies. The impression registered in the Divine Mind by an action is the just one. As a member of the solidarity of minds, He feels the conduct inflicted on men by each other. As the head of society and possessor of authority and power, He avenges and rewards. Conscience, as the religious organ, inspires the fear of God.

ENJOYMENT.

Conscious existence evidently had its origin in the intention to produce happiness. All conscious creatures desire happiness, and are capable of it. Generally, the conscious lives on the unconscious. Were the rule universal, a chief objection to the benevolence of nature would be groundless. The sources of enjoyment exist in great abundance: everything in the world has its correspondent—object answering to object. All the natural acts of living creatures are pleasant: it is a happiness to eat, drink, sleep, feel, think, act, breathe, even to exist. The sense of beauty is met by objects of beauty. The poetic faculty greatly enhances enjoyment, and power over nature enables men to surround themselves with beautiful objects.

One class of arrangements evinces consideration of a very delicate character. Uniformity is *ennui*, and change delightful. Nature provides an unending series of shifting scenes. The atmosphere often travels twenty or thirty miles an hour to supply a change of air to the poor, who cannot afford the expense of change of "location." Bi-annually, a shift of scene, embracing the whole face of nature, is accomplished by a total change of colour from green to white, and from white to green; and daily and hourly by the never-ending phases of the clouds. In cities, variety can be obtained from artistic sources; it is supplied without expense to the children of nature. The seasons yield a delightful change to the lonely dwellers in country parts. The sky, too, with its cloudy curtain, forms an ever-moving panorama, exhibiting change of appearance every moment. The shift from day to night, and from night to day, with the little seasons evolved by the year of twenty-four hours, affords unfailing novelty. The scene is further varied by glowing sunsets, and the midnight brilliance of the aurora borealis. Then, after days or weeks of drought, how refreshing the change to clouds and rain! The storm and tempest often arouse excitement and exhilaration, not surpassed by the exhibitions of the theatre. In summer there is a rapid succession of pleasant fruits, a table prepared in the wilderness, and in successive courses, as if the intention of the Creator were to make His benevolent purposes unmistakable. This ever-revolving kaleidoscope, by giving birth to endless combinations, more or less novel in aspect, keeps the mind awake, and prevents the inhabitants of the country from degenerating into clods. Nature has mental tonic powers of wonderful vigour. Poets may be born in cities, but they are not educated there. The beauty and variety of the country alone can rouse the hidden spark.

The sources of enjoyment abound, but there are drawbacks. The very susceptibility of pleasure is convertible into an instrument of pain. It is the power to feel that creates the possibility of misery. And neither the elements of happiness nor the power to enjoy are always at command. Disease, as well as poverty, may dry up the fountains of pleasure. Were the means and the power of enjoyment in perpetual contact, the evidence of goodness would be complete. There is an unmistakable effort to produce happiness, which often ends in failure. Nature does not operate with the regularity of a piece of clockwork. If divine interference never takes place for the purpose of regulation, it is not because it is not needed. Neither man nor his surroundings work harmoniously. It is impossible almost to conceive of a world in which the help of the Creator would be more needed. The whole machine seems often in danger of upsetting, as if running on one wheel. This is not a state of things fitted for self-operation.

Unhappiness connects itself to some extent with mental condition. The power to think is power to be miserable. In innumerable cases suffering is the result of conduct. In fact, the correlation manifests itself with such iteration as to suggest that conduct may lie at the root of human misery. Often (perhaps in the great majority of cases) it is the conduct of others. If the parents of a family can entail untold misery, what may not the leverage possessed by the parents of a race have enabled them to do in the shape of mischief? The effect of projecting a whole race into being with a false bias can be conceived.

Susceptibility to pain, the correlate of the capacity for enjoyment, serves the same purpose in morals from an opposite direction. It is one of the instruments by which the world is controlled. When bad dispositions evolve, were the capacity of pain wanting, it would be impossible either to check or punish them. Pain thus holds an important place among the purposive evidences of creation. By giving men power over each other, it affords also a test of dispositions. It is the possibility of injury that tempts to injury. When power is prostituted to mischief, it is possible also to return the compliment.

In one of his "Posthumous Essays," John Stuart Mill, in forming an estimate of the Divine character, leaves out the element most important in the calculation. The moral element must be taken into consideration in estimating the conduct of a moral being. Overlooking this, Mr. Mill reaches a startling conclusion :—"If there be a God, He is of limited power. Were He not, He would put a summary arrest on suffering. He evidently needs help." There are other ways of looking at the subject, which will appear if the sources of suffering are examined. Man's inhumanity to man is one. Inhumanity may be permitted. There must be scope for freedom of action. If all actions were checked peremptorily, character would have no chance either to form or exhibit itself. If bad conduct is not checked, it does not therefore follow that God *cannot* check it. Suffering may be allowed, also, to afford opportunity for the exercise of goodness—God demanding help, not because He needs it, but for the moral benefit of the operator.

The ever-recurring disproportion between population and means of support, is another common source of human misery. This can scarcely be ascribed to Divine "incapacity." He could easily remedy it, if He chose.

A chief source of human suffering is disease, as the precursor of death, and associated with an exaggerated capacity of pain. Strange to say, the capacity of pain is evidently intentional. The body is endowed with nerves expressly for feeling, and intended to preserve life, being located as sentinels to notify danger. In sickness, they symptomise the character and amount of disease. But they fail in their purpose to preserve life, and aggravate the miseries of the dying! Is there not "incapacity" here, says the materialist? If death had always an identical cause—weakness of the lungs for instance—it might, possibly, be ascribed to Divine impotence. In making a steady time-keeper, a chief difficulty is found in constructing a good balance-wheel. Some part of an organism from its special difficulty, might, in the same way, have mastered the Creator. This is clearly not the case. There is not a tissue in the human frame that has not successfully resisted death millions of times, and passed into it with its structure unscathed. Death originates in a more occult cause.

As a matter of fact, suffering does not suggest impotence so much as ideas of stern justice and a stringent temperament. Human law limits the death penalty to one or two serious crimes. Divine law governs the world by holding it over the heads of millions considered innocent of capital offence, and by eventually inflicting it in every case. Matters are so arranged that the guilty involve the innocent, as if to overwhelm all connected with the criminal. Even the dumb brutes suffer for the crimes of men. As if angry by anticipation, He inflicted death on them ages before man was created.

There is something ominous, too, in the capacity of mental suffering, a susceptibility exaggerated beyond obvious natural necessity. It was created, no doubt, to yield leverage, and it is impossible to avoid the inference, that it may yet be strained to the utmost. In nature nothing exists in vain. The capacity of mental suffering is, therefore, of fearful omen. It is a historic fact also that such suffering has reached its maximum as a sense of guilt. This would indicate that the Almighty reserves the susceptibility for the day of judgment. If the necessity ever arise of using the power to the utmost, the scene will be better designated by the old emphatic name than by Hades. The establishment of a new county is inaugurated by the erection of a court-house and prison, of a province, by a penitentiary. Is it possible to govern a universe without a universal prison? The softest name, given to such a place, will, in course of time, gather blackness. Some men of kindly dispositions conjecture that in every case the Almighty must conciliate the traitor. Such weakness on the throne of a Universe would beget a poor prospect of peace or loyalty.

He Who gave being to untold millions of creatures, full of the appreciation of life, yet appointed them as a prey to others, which have both the taste and capacity for destruction, is not a Being of unmodified benevolence, but rather of strictly philosophical temper. If the God of nature has a gentle side, the other can present an aspect of great severity. A world fitted to be the temporary home and training-place of spirits, needed such admonitory hints, especially for the benefit of the very dangerous class, who preach a gospel of unlimited and imperturbable goodness. A close look into large departments of life has led many to exclaim—"O, the severity!" rather than "the goodness" of God. It is obviously suggested that he who perseveres in impinging on the retributive side of the Author of nature, must be fortified for the face-to-face meeting. The Being Who made the shark is not a desirable enemy. "Our God is a consuming fire."

Viewed from the standpoint of nature, gentleness is not the prominent feature in the Divine character. We see mingled with it sternness and strict impartiality. The gospel, however, throws a ray of beautiful light over all.

(1.) God commands nothing which He is not willing to do Himself. This is one lesson of the Incarnation.

(2.) His severity is inspired by justice. The disposition to cause suffering is a principle, not a passion. That He may forgive, He Himself assumes the penalty.

(3.) The principle by which others besides the guilty become involved in suffering, is the merciful provision by which the Atonement is made possible.

PART IV.

THE RATIONAL ORGANIC WORLD—UNIVERSAL RELATIONS.

MIND AND MATTER.

On account of wonderful originality, it is impossible to form an *à priori* conception of nature in any department. This is illustrated by persons born with one of the senses wanting. The blind never conceive colours, nor the deaf sounds. It is equally impossible to form a "pre-experience" idea of the processes of nature. The difficulty may arise from inefficiency. From the human standpoint the power in nature is more incomprehensible than the wisdom, simply because the thought exhibited is like our own, while the power is infinitely higher. Only by using pre-existing materials can the created mind detach its force, and give it permanent externality. The Divine power, on the contrary, gives extant material being to thought, by originating the materials. In the absence of this power, it is impossible to pre-conceive the works of God. A being endowed with creative power would instinctively do many things peculiar to nature. He would produce materials, rather than laboriously appropriate them. From incapacity, inventions are realised in maturity. The power to make germs with expansive force would soon result in budding machinery. By the processes of nature creative labour is minimised, and a margin prepared in which men can multiply the materials of life. The characteristic idea of nature is so simple that defect of power alone prevents its *à priori* suggestion.

In all essential points the works of God bear a striking resemblance to those of men. Similarity of mind is proved by the frequent possibility of predicting by inference. The world is constructed out of little blocks of matter, definite in shape and weight. Organisms are built by definite blocks (cells), formed by combinations of atoms. Every animal and vegetable structure thus involves the fundamental principle of all architecture. Had the foundation-stone of a building the power of enlargement, by appropriating extraneous matter, and by division, of forming other stones shaped as the various parts of a building require, there would be germination and growth in the sphere of the builder. Every germ is endowed with architectural power. The idea is too simple not to have suggested itself, had the ability to realise existed. The works of God in their totality also exhibit the leading characteristics of all machinery. By the machinist three things are carefully estimated, viz., distance, weight, velocity. Exact calculation on these very points makes the universe a grand exhibition of mechanical skill.

Neither the wanton pleasure of action, nor the mere satisfaction of seeing results, could be the motive of creation. The creation of a material universe involves a further purpose—the creation of immaterial beings able to comprehend it. Mind alone can comprehend mind. Mind alone can make itself comprehensible by mind. Comprehension of the divine works proves similarity of nature in the Creator and man. This is not anthropomorphism. If a Deity be *constructed* out of the consciousness, it is because God made His own nature the model in creating man. Thus, man is both the interpreter and the interpreting fact. In his own nature he holds the key of the enigma.

The distance from God is most felt in the sphere of power, but in the sphere of knowledge it is necessarily great also. Different mind-power exhibited in universal varieties may be a hint to this effect. In the animal kingdom, intelligence contracts till it becomes the merest speck of consciousness. The distance between man and the *Rhizopod* may represent that between God and man. Comparison with the inferior world of life suggests a lesson of superiority too. All the high-class animals have the five senses in wonderful development. These animals see better, hear better, smell better, and probably both touch and taste better, than men. This demonstrates that mind is not an out-growth of the senses. Conformity of structure to the vertebrates establishes an inference the very opposite of that drawn by the positivist. Animal in body, man is a being of superior mould. If the human body were of exceptional form, intellectual endowment would be ascribed to organisation. An almost identical organisation existing in union with exceptional powers, demonstrates a higher spiritual nature. The brain being an instrument, its size is gauged by mind-capacity. A large brain in man is associated with the ability to receive more complex impressions. Non-comprehension of this relation has led to the supposition that the brain creates the mind, just as a child might suppose the horses to be impelled forward by a hidden spring in the carriage.

The positivist idea of mind is fully realised in every animal. The animal lives in a world of phenomena. Its ideas are recalled sensations. It is never perplexed by the conceptions which Hume and Comte laboured to exorcise from the human mind. It forms very shadowy notions of either substance or cause. It shows itself destitute of reason by supposing that anything may be the cause of anything. An animal will feed for years round a granite boulder posited on a limestone rock, without indicating even by a stare that anything strange presents itself. Only when motion takes place is there questioning. This, however, may be the effect of former experience—a transformed sensation. When it seems to ask:—"Can it bite?" a sharp sensation recalled may be the full explanation.

At the same time the "sensational" inference is not valid, even in the case of brutes. Sensations are not states of the senses. Animals—to the very lowest, place the whole sphere of observation outside of them, and are probably less conscious of the senses than men. Differentiation of the material world proves a conscious contrast between mind and matter, and indicates that the senses are felt to be media. Feeling is not *in* them, but *through* them. The ear is an ear trumpet, and the eye a telescope. The hawk calculates externality and distance more correctly than man. Mind, even in the lowest animal, isolates the very matter in which it encases itself, and carries it about as an instrument to look out and act with.

The many-sided multiplicity of life has lessons that are eliminated by evolution. The world is brimful of various mind. Mind peers out in every direction. Every drop of water, every particle of soil, may be said to contain it. The whole unconscious organic world not only lives but dies, that it may minister to mind. Mind is the great fact—is the inference illegitimate, that it is the *ultimate* fact?

The varieties of life also convey important lessons. A lizard placed on the chair of a guest would indicate an intention to insult him. The existence of disgusting creatures may serve, among other purposes, as hints that the world was fitted up for a being for whom the

Creator for some reason would lose respect. Before the invention of fire-arms, the exposed teeth of savage monsters, vastly more powerful than man, had to be confronted everywhere. Even yet, human life is in constant danger from creatures at the other pole of existence (bacteria). There is latent anger in the bosom of every living creature, ever ready to flash out in indignation. A Being incapable of anger could not have made the world. What, if the capacity of anger equal the amount of Being as everywhere within the range of experience! That it is a fearful thing to fall into the hands of the living God, nature gives no uncertain warning.

Life in nature forms a hierarchy, or a series of hierarchies. The relation of higher and lower is met everywhere. Subordination is one of the grand facts. Whenever there is a possibility of escaping this law, the higher is put into subjection to the lower. This is, perhaps, one of the lessons of parasites. The subordinations therefore of human society have their root in the Divine Will, and can never be abolished. One form of subjection can only be exchanged for another. Which is best?—this or that?—is the only possible question. If even the heads of society cannot escape the all-comprehending law of subordination, the matter must be looked at squarely. In the extensive world of animal-life, positions are fixed. Inspired writers tell us that there are hierarchies in heaven. If an inference is possible, it is that a certain fixity of position is the surest way to the highest development of society. A middle class between the Infinite Creator and the vast majority of His creatures, prepares them for the higher obedience, as the family relation prepares for citizenship. All irritation will vanish, when the unavoidable subordinations are contemplated from the point of view of religion. Divine appointment gives honour to any position. Society is a body constituted by many members. There must be hands and feet, as well as head and eyes, the former equally valuable as the latter. There are fixed amounts and kinds of work that must be done. Make the labourers of the world bankers, and in two years the bankers of the world shall have starved to death. Each individual has his own gift. In the overwhelming majority, it is the capacity to handle an implement of labour. Let the labourer accept his gift and office, as Divine appointments! And let those whose endowment and calling are of a higher order, regard both their own position and that of the labourer as a Divine arrangement. Let "society" never forget that it depends for bread on its million hands. "Even the King is served by the field." On the other hand, let consciousness of a Divine call clothe the workman with dignity. Let him listen to the call of duty, rather than to that of ambition. If worthy, appointment to a higher place will not be withheld, and when it comes, it will bring assured success. In every case, such an appointment must be the warrant for change. Mere disaffection and turbulence can never achieve success. In America, where fugitives from honest labour abound, the professions are overstocked and business overdone; hence a commercial crisis, with its unspeakable calamities, is in order every few years. In fact, a large minority of business men live by preying on each other—a method which even governments are compelled to regard as legitimate.

Only the most villainous animals prey on their own kind. Why should animals have been so constituted by the Creator, as to prey on each other?—There is a valuable kernel within the unsightly shell of this fact. In the Divine dominions nothing is allowed to live or even die for itself. Creatures that instinctively devote themselves to pleasure, are forced by stern necessity to yield up their lives for the public good. Self-sacrifice, voluntary or compulsory, is the order of nature. What the Divine Being is, He requires or compels all to be. He upholds a Universe for the good of all; He expects each to live for the good of all. Even the Divine Essence—we say it reverently—is a Society, each Person devoting Himself to the glory of the Others.

NATURAL INSPIRATION.

THE Divine existence is not a human discovery. If the mind of man rose unaided from nature to nature's God, a record of the brilliant operation would have been preserved. As the unity of nature alone could suggest the unity of God, the discovery could not be made in the very earliest ages any more than that of the Newtonian system. Two ideas have been familiar to the human mind from the inception of the race, viz.—the idea of GOD, and that of the *post-mortem* existence of the soul. The natives of North America belong to the most primitive races of the world. They must have forsaken the Eastern Continent as early as the earliest days of Egypt. The enterprise of the Norwegians, who left their trail in America ages before the birth of Columbus, is a subject of admiration. How great must have been the enterprise of a race who discovered it, not centuries but chiliads before either! The connection of the Red Man with the Old Continent was severed before the gods with whose names scholars are so familiar were ever heard of. He knows nothing of the *dei majorum gentium* nor of the *dei minorum gentium*. He is not an atheist. He believes in a Great Spirit. It follows that faith in ONE GOD was the primitive belief of man. Knowledge of One God in those unscientific ages demonstrates that the race began its career with the conception.

The poets were the primitive prophets. The object of poetry is not discovery, but the presentment of known truth in an impressive manner. A poet is excited to enthusiasm by the grandeur of the universe, and in his ecstasy grasps the majesty of Infinite Mind, and arrays the brilliant conception in a texture woven out of material elements. To the inspired man the products of mind everywhere reflect mind. The world is also filled with analogies that afford the opportunity of presenting universal truth draped in universal nature—"a woman clothed with the sun, with the moon under her feet, and on her head a crown of stars." Every true poem is a hymn of praise to God. If science is the anatomy, poetry is the physiology of things. The true poet instinctively discerns the function of nature to be a permanent revelation of God.

Do poets always fulfil their mission? The oldest apparent attempts at poetry on record, strange to say, express complaints. The Deity is their object, but the divine art is turned against Him. As early as the days of Lamech, and even of Cain, poetry had entered on its downward career of prostitution. In no great time the poets turned their ambition to glowing description, and ultimately taught men to worship the grander objects of nature, as the sun, moon, and stars. The minds of these priests of nature became gradually weaker, till doubting the power of one Creator and Governor, they filled the various departments of the world with particular gods. The nadir of their downward course was reached, when, like some preachers since, they interested their audience by amusing stories, the person surpassing others in adorning a thrilling absurdity being the greatest prophet of the school. Very complete editions of the strange sermons exist in the mythologies of Greece and Rome. At various times grave attempts have been made at philosophising over these absurd fables. It has been shown that they were built up by accretion, in accordance with the laws of mind, and much ability has been displayed in explaining their parabolic meanings. Granted that the germs were sincere, the developments in simple truth may be classed with the Arabian Nights' Entertainments, the Romances of the Middle Ages, and modern novels. The mythological poets were the novelists of the early ages, and the pabulum they served the material most suited to the public taste. Poetry, endowed to be the handmaid of religion, became its enemy, and by weakening the mind and rendering it false, was turned into a curse. There was a demand for such food, however. The laity, having itching ears, the priest who could tickle them with the most neatly prepared absurdity became the hero of the hour.

The fall of the primitive prophets made a new order indispensable, endowed with more perfect guidance. A poet must be in accord with nature, the slightest imperfection of the instrument producing jarring sounds. Natural inspiration failed from defect of instrument and of instrumentation. "The spirit of the prophets was subject to the prophets," and the mythologies were the inharmonious product. A new school was created, blessed by a minute guidance in the choice both of ideas and words. Poetry is a particular style of thought expressed by word painting. The new prophets were inspired in both conception and language. That the full divine afflatus was needed can scarcely be denied.

The conception of a Divine Being once obtained, nature is a standing demonstration of His Existence and Character. The book of nature does for the Creator what a book ordinarily does for its author. It is a revelation of intelligence, a black board inscribed all over with the signs of thought. Apart from disturbed relations, the works of God would maintain both the knowledge and the veneration of religion. The Universe is a University. Created as the school of embodied spirits, it is stored with all the appliances needed to train them physically, morally, and intellectually.

The exertion necessary to make a living, awakens ingenuity and strengthens the physical powers. The aim of providence clearly is to rouse two kinds of energy—self-reliance and reliance on God, or faith and works. Like the lord in the parable, the Maker retires, as it were, into a far country, and leaves His servants in full possession. Immediate dependence on Providence for all mature substances would bring men hourly to the foot of the throne. The law of germination makes them, however, apparently masters of the situation. They can produce everything needed in the shape of food, clothing, and luxuries. On the other hand, when self-dependence becomes the sole principle of action, there is soon a face-to-face encounter with disagreeable consequences. In oft-recurring periods, a nation's supplies are strained to the utmost. Here there is wise discipline in action and reaction. The aim of Providence in educating free energy, can be effected only by the ambition of property and the power of accumulation. On this account, the Master commits everything to his servants, endowing them according to ability. This clause of the arrangement is against communism. Communism is the science of the shortest cut to the property of others. Such a philosophy in practice would annihilate free energy, and do nothing to foster faith. The arrangements of Providence have both objects in view. They bless—to encourage enterprise; they withhold the blessing—to necessitate faith. The needy are expected by Providence both to exert themselves and to look up to God. Communism will probably be the practical system of a better world, where enjoyment and not education will be the object. The happiest days and hours are spent in society. The most intense pleasure is produced by things enjoyable in common, like music. In heaven, everything will be possessed in common. The attempt to convert earth into heaven, however, would probably issue in realising hell.

There is a hint in the context also for men who are not communists. If private possessions are not a feature of the eternal world, a special discipline will be required to prepare for such a mode of existence. They whose predominating principle is accumulation, will be miserable in any world where it is not allowable to own. Hence the value in many cases of poverty. A heart set on riches leaves its resources behind in passing out of this life. Self-denial, therefore, forced by the exactions of Providence is disciplinary for this life by necessitating dependence, and for the next by purifying the temple.

It may be asked: "If God intends thus to maintain a mastery in the consciousness, would it not be wiser to make His presence more demonstrative? A method of retiring, which is not retiring, seems to play fast and loose with faith." The method, we reply, is an educationary expedient. On account of spirituality of nature, in no world can God become visible except through symbol. Faith is, therefore, the cardinal grace of all worlds. Men must be trained to trust in conclusions, till, step by step, faith grows into sight, and realises its object.

The inhabitants of all worlds are probably governed by representation, to stand, fall, or rise. That the mind might be familiarised with this all-important principle, there exist well-calculated expedients. In his own sphere, each individual holds a representative position. He has a constituency over which he reigns with power to inflict death. It is the power of individuals to do harm that renders a more comprehensive representative system necessary. The disinclination in men to yield up their power, except voluntarily, secures in time a chosen representation. Thus, progress brings the fundamental principle of the divine government in its substance into relief. At the same time, government by chosen representatives is an incomplete idea. In the divine representative system, Deity is the important factor. In every perfect government absolute authority must be represented, were it only by an independent judiciary. Where this is overlooked, right becomes a mere human idea to be enforced only as expedience may dictate. As inspiration not only awakens feeling, but impresses truth and especially justice, a powerful inspiration must come from Institutions.

Necessity compelling attention to the qualities of things, nature becomes a powerful stimulus of thought. The possibility of accumulation gives the best class of minds an opportunity of study, and of originating ideas on all subjects. The inquisitive, impelled by the tantalising puzzles that present themselves on all sides, study for the sake of knowing. The puzzles of nature always suggest the possibility of solution. Invented by mind, they are penetrable by mind. The capacity of indefinite improvement has its origin in the *power* of an endless life. Knowledge is advancing with rapid strides to a comprehension of everything worth knowing. In chemistry, a key to the fundamental mysteries of Creation has been found. When door after door has been opened to the last, the end will come. When the whole system has been investigated, and understood, it will probably be taken down and another structure formed, to give the opportunity of further mental progress. From Alpha to Omega, all things exist and change for the sake of Mind.

In unanalytical ages, the knowledge of God was moral rather than intellectual. Design was recognised in the larger structures, but faith was kept alive principally by the case of interposing goodness. Helplessness taught men to trust, and faith was met by answering attention. Intellectual belief never becomes living till exercised in real life. A sense of helplessness is the inspiration of vigorous faith in all.

The sights and sounds of nature, as a source of inspiration, have a peculiar effect on the mind. The sighing of the winds, the low loud wail of a pine forest, the triumphant war-cry of a storm, the rush of waters, the roar of a cataract, the song of birds, and the midnight cry of wild animals, fill the mind with indescribable sensations. "All the sounds of nature are in the minor key," and dispose to serious reflection. They arouse those feelings of mingled joy and plaintive sorrow that act on the spirit like a balm. A bold and expansive landscape carries the thoughts away into eternity. Other worlds meet our view, and illuminate every natural picture. A look into nature, with its vast dome, its far-off but real back-ground, and its extended scenery, inspires and elevates as no painting can ever do. No picture-gallery can fill the place of the galleries prepared by the Great Artist, which belong to every child of man. Frequent opportunities of holding communion with nature should be afforded to all. Is it remarkable if men who seldom see or hear anything but whirring machinery, cease to believe in aught but the tyrant man? Too often are operatives met with from the land of our birth, who have been nurtured into atheism in her large cities. Extensive sections of the Christian Church have been fatally injured by the want of religious holidays. The attempt to make man an alternate working and worshipping machine has signally failed. The intensified worldliness of some Christian countries has never been surpassed.

Another side of the Divine as well as of the human nature needs careful study. Drollery exists in the bosom, and is expressed in the countenance of the majority of living creatures. Only a Being full of innocent humour could have made the world with which we are familiar. The religion that overlooks this characteristic must fail. The Founder of Christianity knew both the Divine and human natures far better. Revealed religion was inaugurated by the establishment of a day of rest. Moses gave his disciples one day; Christ gives His two. For immortal creatures, a day spent in self-denial of worldly business and pleasure is necessary as a preparation for the better life. This is the object of a day which commemorates the triumphant completion of our holy religion. The earlier Sabbath was established to glorify the works of God, by giving men an opportunity to study them. Christ taught

His disciples how the day should be observed in the Christian church by going into the fields with them and allowing them to pluck the ears of corn. He did not abolish the rest of the seventh day. Like the many Jewish Sabbaths, it was intended to be a check on the worldly spirit, and a promoter of faith in the providence of God. A chief obstacle to the progress of Christianity in the early ages was the loss of fifty-two days in the year. To the owners of slaves, this was a serious matter. The nations, however, that made the sacrifice have found not loss but gain. From year to year, the loss is more than compensated. When faith in God makes the nations willing to sacrifice the other day consecrated by Divine authority, the prosperity of the millennial age shall have been inaugurated. Grinding labour is the curse of man. If Christ can alleviate it by a perpetual miracle, His mission has a constant Divine evidence. Let the labouring populations of the world know that He came to make their yoke easy and their burden light, that Jesus of Nazareth is the friend of the labouring and the heavy laden.

SUPERNATURAL INSPIRATION.

THE OLD TESTAMENT.

The Earth is not a solitary body; it is part of a Universe, by similarity of matter, gravity, and vitalising power. Its source of life is in the heavens—a body ninety million miles off. A universe of matter must be the arena of a universe of mind. If the physical force act from mass to mass, Will-force cannot be an exception. Spiritual light, like the natural, must come from the heavens, and there are, no doubt, beings who have the freedom of the universe. This is the gospel of nature. Distant worlds are placed within eyeshot to announce a universe. The sceptical position is too narrow and provincial to commend itself to the great heart of humanity. It chills and cramps by a sense of isolation. The longings felt in peering out into infinitude can be satisfied only by ultimate fellowship with the spirits of eternity. The Bible begins its communications by announcing visitors from other worlds. It thus meets the demands of scientific thought, by postulating the oneness which a universal physical system suggests.

On the other hand, some puzzling difficulties are solved if doings on earth are known in other worlds. As the Fall of angels has been announced here, the Fall of men must have been announced everywhere. Because the world is a universal example, sin has been allowed to work out all possible samples of its consequences. In a vanquished rebellion, some are always devoted to destruction. The necessity of a limited application of redemption is thus apparent. The fact that, even when salvation is made possible, all are not saved, must be a solemn warning to all worlds.

The revelations of the Bible are introduced by an account of Creation. The Creator alone can speak with authority out of eternity, and announce Himself by establishing authorship. The claim of miracles is thus *primâ facie* evidence of inspiration. Miracle sare justified by the object. Because the moral law is more important than the physical, the physical must yield for the moral. If man has an infinite destiny, he is worthy of the utmost benevolent attention. Doubters reason as if miracles were intended to account for friction; sometimes as if they would necessarily shake the whole fabric of Creation; whereas a miracle is a slight change at a given point to announce the presence of the Creator, wrought out of respect to human freedom, that faith and conduct might flow from conviction.

Like the flora and fauna in nature, miracles are unclassified in the Bible, but not without plan. They occur over the whole field of nature, that every part may appear amenable to the control of the Author. They are wrought on the heavens, on the atmosphere and clouds, on land and water, on trees, animals, and men. The miracles of Moses demonstrated Creation and Providence; those of Christ, Redemption. Pharaoh's answer to Moses indicated that the nations had forgotten God. By changing the Nile into blood, by animating the dust of Egypt, He demonstrated Himself to be the source of life. By inflicting disease on men and animals, and by destroying the first-born, He demonstrated Himself to be the Author of death. In the first chapter of "Genesis," He is represented as giving matter its germinating power. Vegetable germs convert inorganic matter into organic food. *Qui facit per alium facit per se.*—If He does it mediately, He can do it directly. This is the lesson of the Manna. Some exceptional miracles were wrought to assert authority over particular departments. The great one recorded in the Book of Jonah, proved control over the monsters of the deep—that in the lion's den, over the denizens of the forest. The object being understood, viz.—that the whole field must be covered, the justification follows of some highly important miracles which would otherwise appear trifling. The causing of iron to swim, in direct counteraction of the law of gravity, is, perhaps, the most unmistakable miracle on record.

The position taken by Hume on miracles has elicited a very undeserved amount of attention. It is the argument of despair. From its very nature, it was suggested by the utter hopelessness of meeting the testimonial evidence of Christianity direct. No such evidence ever did or ever will mislead. Moreover, it begs the question which it proposes to settle. That question is: Does experience confirm or oppose the existence of miraculous interference? The experience, however, of an individual, or of an age, is not a summary of the history of the world. Nor is the *prima facie* case against miracles. In a world that rests on miracle, for a being whose own existence is miraculous, it is simply absurd to say that the antecedent probability is against miraculous intervention. If nature originated in the will of God, its laws are as positive as were the ceremonial enactments of Moses. Like words they are the change of wise men, and the counters of fools. If the machine has been set up, it can be altered or taken to pieces. Brought into existence as a revelation of God, if by the perversity of the human mind it tend rather to hide Him, the change can be effected necessary for the accomplishment of the original purpose.

In reality, every will in being suspends the laws and alters the course of nature. Bushnell's position has never been successfully assailed. Mind is not a mere link in the chain of natural causation. It bears the image of the Creator, and, moreover, is one of the departments through which He wields a leverage over the world. By influencing mind, He shapes the course of history. The movements of mind are subject to constant fluctuation, and are not like those of the stars, invariable. In opposition to the preconception of materialism, there is often a marked discrepancy between mind-power (and especially between will-power) and bodily development. The majority of men have either more mind, or far less, than bodily indications would suggest; and mind-power is not unfrequently in inverse ratio to the amount of food necessary to support bodily vigour. The brain being consciously used by the mind as the hand is, all parts of the body are felt to be what each is, viz., an instrument.

THE BOOK OF JOB.

The Book of Job bears unmistakable marks of a high antiquity, while its main object places it logically among the initial books of Scripture. A universe of matter, as pointed out, infers a universe of mind, and this is tantamount to universal intercourse among the more advanced spirits. The main object of the Book of Job is to reveal the fact that many things take place that they may bear on the conviction of other worlds. No narrow provincial isolation can exist in the Deity. To help reason in unravelling the mysteries of providence, it was necessary that this important fact should have been announced at the dawn of history. In the circumstances, the perplexing questioning of the fallen potentate was natural—"Doth Job fear God for nought?"—Familiar for ages with the manifestations of the fallen mind, he had never detected a spark of *unfeigned* religion. He was thus in the very position of the sceptic; the known invariability of certain facts made variability incredible. No fallen spirit in his own domains had been known to vary by a hair's-breadth, except hypocritically, from unflinching opposition to God. During all the early history of the human family, therefore, Satan would be filled with doubts as to the real nature of human pretences to piety. Only by experimental tests applied personally, could he be convinced that the religion of the fallen could be anything but mercenary. A willingness to submit the matter to trial throws light on the divine character, as well as on the present state of fallen angels. They are in the position of criminals, whose case has not been adjudicated, and who enjoy a bailed liberty till the judgment. Or their freedom may be a second probation, in which all possible helps are afforded, a position parallel to that of nations outside of the pale of Christianity. Ultimately, the trial could only accrue in good to Job. It has immortalised him.

Other things indicate a very early date for the book.

As in the earliest part of Genesis there is unhesitating faith in immortality; and, as there also, believers are unexpectedly designated, as in the latest scriptures, "the sons of God." It is easy to perceive why these things should have been so. If man was created an immortal, traditional knowledge of the fact would be definite in the very earliest age; and if brought into being by the divine "Breath," it would be known that he was a son of God. Creation by breathing brought the divine and human into contact at the starting-place of life. In the infancy of existence the most helpless of God's creatures needed instruction. This instruction embraced particulars not recorded, such as the appointment of sacrifice. That the prophetic import was also pointed out, is made undoubted by the exclamation of Eve at the birth of Cain. The early designation, "sons of God," presupposes information that the beautiful crystal fractured by sin would be repaired by a renewal of the "Breath." Creation anew by the divine "Breath" is one of the fundamental positions of the gospel. The dispensation of life is characteristically a dispensation of the Breath (*pneuma*). Only by postulating definite instruction can it be explained why the very earliest churches were known as congregations of the "sons of God." The expression connects Job with the early Fathers of the world.

Again, we may point out that the interlocutors in the book of Job had what neither side in the great materialistic controversy at present seems to have—a face-to-face knowledge of nature. Arguments are advanced on both sides by men who evidently know her chiefly as exhibited in conservatories, and who seem to have no conception of a limit to the possibilities of natural law. The speakers presented by the book of Job had evidently studied in the school of nature, and therefore present conceptions formed without a flaw.

Both the longevity of Job and the address of the Deity point to the early ages, when intercourse between heaven and earth was common. In the divine speech, verisimilitude is maintained by allusions to monstrous animals. In the heathen mythological period, the human imagination was filled with frightful conceptions of animal life, having their origin possibly in the facts of a remote past. The monsters employed to awe Job into humility had disappeared from those countries before the historic period. "Behold now Behemoth, . . . he moveth his tail like a cedar, . . . his bones are as strong pieces of brass. . . . Behold, he drinketh up a river, . . . he trusteth that he can draw up Jordan into his mouth." No such creature has been seen since the dawn of classic history. As the most powerful brutes are first to perish, this one must have perished at a very early date. Again—"Canst thou draw out Leviathan with a hook? . . . Shall not one be cast down even at the sight of him? . . . His teeth are terrible round about. . . . By his neesings a light doth shine. . . . His eyes are as the eyelids of the morning. . . . Out of his mouth go burning lamps, and sparks of fire leap out. . . . He maketh the deep boil like a pot. . . . He maketh a path to shine after him; one would think that the sea were hoary." Those teeth, terrible round about, and those wheel-like eyes, like the eyelids of the morning, clearly point to monsters of the saurian order now extinct.

In connection with the book of Job, the question of its origin is not without interest:—When Moses left Egypt, a fugitive, in early life, he was versed in all the learning of the Egyptians. His knowledge would, therefore, embrace a competent familiarity with hieroglyphics. When he reappeared forty years afterwards, he was master of an alphabet, apparently unknown in Egypt.

Obviously, he had become acquainted with this instrument in Arabia, the very country where such an invention might have been looked for. The barrenness of the desert brings the reflective mind into contact with abstract nature, and the effect seems to be an extraordinary genius for abstract signs. The world is indebted to Arabia for its numerals and algebra, and there can be little cause to doubt for its alphabet as well.

The conjecture is supported by the "Written Rocks," and by the Jewish tradition connected with the book of Job. The desert way between Egypt and the East has been present to the eye of history from the days of Moses, and no people are known to have occupied the country who could have made these inscriptions. There need be no surprise that the characters exhibited on the "written rocks" differ entirely from the ancient Hebrew ones. Each country, probably ambitious of claiming the honour of an invention so distinguished, seems to have devised a character of its own. The Greek, Ancient Hebrew, Chaldee, Arabic, and Syriac, all differ one from the other. The letters on the "written rocks" are probably specimens of the first rude attempt to form an alphabet.[1]

The tradition that Moses discovered the book of Job in Arabia, both supports the view presented and gets support from it. The valuable applications alone could have suggested the greatest invention of any age. All great discoveries as well as inventions are made by theistic races, and one of the kind under consideration would be made for theistic purposes at a time when the shortening of human life threatened to undermine the value of tradition.

THE BOOK OF GENESIS.

"Criticism" is probably right when it affirms that some, at least, of the constituents of the book of Genesis existed before Moses. The little books of which the early part is made up, indicate a separate origin, and by their brevity appear as if prepared for memorising. Strange indeed, if the intelligence which suggested the importance of a history of the early world, had not also taught the evidential value of careful composition. The sagacity which preserved facts so well chosen would hand them down in proper form. The responsible position of the father of our race, made a knowledge of the substance of the first, and part of the second, chapter of Genesis, a *sine quâ non.* If the sin of Adam was overwhelmingly the greatest ever committed in the world, it was because proceeding from a state of perfect light and moral power. His knowledge involved a clear perception of the responsibilities arising from the relation of a creature to his Creator. The appointed test of obedience implied a definite knowledge of creation. It is justly inferred that the story of the creation, as exhibited in the beginning of Genesis, had been committed to him as his Bible. This indeed is implied in the appointment of a day of rest. The Sabbath had no meaning apart from the story of the operations of the six days. A periodic conception of the "days" would at once suggest itself, even if not inculcated, the divine rest embracing an indefinite period. Time was evidently divided into seven small portions, to represent seven large ones. The week, being not a natural division of time, like the month and the year, makes the distinction of weeks by all the early nations a striking traditional confirmation of the statement of Genesis. Our own nomenclature of days comes to us, not from the Hebrews, but from our Gothic Ancestors.

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[1] The Phœnicians had business tact enough to appropriate an alphabet and claim it.

Some time may yet elapse ere the volume of nature unfold all the information it contains on the work of the successive days. The book of geology has very large leaves, and they are not easily turned. The open ones have been examined with praiseworthy care, but there are unopened pages that still enclose their secrets. Decades, perhaps centuries, may elapse before all the facts necessary to a complete verdict have been unearthed. When all have been exposed, there will be no need of "trimming" on the part of the Christian apologist. It will be shown that the works affirmed as of the third and fifth and sixth days are sanctioned as such by the warrant of nature. In its minutest statements, the record will eventually be sustained. Especially, may it be affirmed that no discovery to be made will ever give the smallest countenance to abiogenesis. The principle that "like begets like," and that life originates thus, alone, in the course of nature, has been established by untold millions of examples. The contrary principle, therefore, involves the overthrow of the Baconian philosophy. When life first appeared, it was not by the course of nature, and all the initial facts range themselves naturally on the side of creationism. For example, sun-force, in the absence of an atmosphere, fails to produce life in the moon. If life be a product of nature, therefore, it must be so by the co-operation of the atmosphere. Were life the result of sun-force operating through the atmosphere, the lung would be the centre of development in all living creatures. But as neither the leaves nor even the roots in plants, nor the lungs nor stomach in animals, constitute the centres of development, but belong rather to the periphery, it follows that life has had an origin altogether inexplicable on physical principles. Mr. Spencer's extraordinary mistake in making *nitrogen* the living principle, must be accounted for by absence of mental contact with the primal facts. Nitrogen is the azote of the atmosphere. By the electric spark alone is it converted into plant-food, and then contact with life is necessary to convert it into living substance.

The Author of the first chapters of Genesis knew something. His statement that light was created in the first period of the world, and that the sun and moon were made on the fourth, has inflated a long succession of doubters with a sense of superior wisdom. Nevertheless, science demonstrates that it must have been so. Combustion is not an essential state, even of combustible matter. The Creation was perfected by successive acts. This is the position of the Book of Genesis. The bodies that make up the solar system passed into igneous fusion in succession. Its burned-out igneous nucleus, and its old stratified rocks, testify that the earth was a burning sun, while both the sun and moon were dense, non-luminous masses. When a blazing star itself, it needed not the light of other worlds. That the moon was put into combustion before the sun, is proved by its extinguished fires, just as old stratified rocks, resting on a burnt-out base, prove that the earth was in a state of combustion before the moon. The sentence, "Let there be light," was probably entered in the narrative, while important details were left out, knowing that it would ultimately suggest the orb that gives light without heat. During long ages, the light and heat of the moon would probably equal that of the sun at present.[1] The law of economy forbids the existence of two suns at once. In the fourth period of the earth's history, however, the sun became the source of light, and the moon a mere reflector.

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[1] If a cold period, in addition to the periods of the Arctic ice, can be demonstrated, it would take place when the lunar heat was on the wane. The presumption, however, is that there would be no break, or intermission of heat.

In the second period of the world a firmament was made to divide the waters from the waters. The statement is a peculiar description of the development of an atmosphere. That none of the gases which constitute the "elements" exist in a free state in the moon, proves that world-combustion consolidates them, and that "law" has no tendency to effect their disengagement. After long ages, there is not even the nucleus of an atmosphere or an ocean in the moon, establishing beyond doubt that Divine interposition has taken place on the Earth. The face of nature here, when compared with the face of nature there, gives the amount of interference. This amount corresponds exactly with the statements made in Genesis. Everything attributed to Divine fiat there is found wanting in our satellite. The moon may be said to hang in the academy of nature, a specimen of the reign of law. The "Convertibility of Force" has not originated a single germ, nor even the medium in which it could live.

The supernatural origin of man necessitated immediate contact with God. The amount of demonstrative action by the Deity it is impossible to determine. The naked prairie, or the native forest, is the last imaginable place where a friendly Creator would locate a being newly made in His own image. Nor can there be surprise if He brought him into conscious being with a conception of creation in his mind, and equally little, if He taught him to use his vocal organs. Language is in one sense an imitative art. Children learn to speak like parrots, and the deaf are always dumb. Had the Creator not acted the part of parent, teaching Adam to use his vocal organs, his descendants would have been a race of gesticulating barbarians. Man is not an inventor of words. Advanced languages are "evolved" chiefly by plagiarism and phonetic corruption, and invented words are "slang." The small differentiation of the Arabic and Syriac from the Hebrew during four thousand years makes the lingual catastrophe of Babel a necessary fact. In no other way can a number of totally different languages, or families of language, be accounted for.

To return: Scepticism is the product of an instinct too weak to recognise the present as an abnormal state. Man is evidently at war with himself. If he persists in living a self-condemned life, is it strange if the Judge of all the earth maintain a distant silent reserve? Where the moral instincts have not been dulled by a too exclusive exercise of the logical faculty, or by passion, the divine social life of Eden will appear highly natural in a being with wonderful faculties, and endowed with an unquenchable thirst for God.

The idea of preserving a consecutive history of the world from its origin, indicates a high degree of intelligence. It is just what might have been expected from the first members of a great race, educated at the fountainhead of intelligence. The idea is divine, whether it originated with the Deity or not, and the facts singled out for preservation have stood the test of the most careful scrutiny. A number of particulars have been specified, as the creation of matter, the development of an atmosphere, the change of physical geography necessitated by a universal deluge, the shortening of human life, &c. Even in the minutest social details verisimilitude is never wanting. As it is of importance to establish the veracity of these primitive records throughout, a few instances are given. It is affirmed that the first-born son of man became a murderer. This is not at all improbable. The training of children is a traditional art. The first members of the race had no experimental knowledge of the necessity of subjecting the will in infancy. Cain exhibited all the pettishness of a spoilt child. Wherever the rod is spared in the family, or in the grand modern supplementary institute—the school, crimes of violence abound, a fact forcibly illustrated on this Continent at the present moment. Again, spoilt children not only overestimate their own importance, but that of their "belongings." Their possessions, whether property or children, are always superior to those of others. It is related that Cain built a city, and called it after the name of his son, Enoch. This is a touch of living nature, and a fact pregnant with any amount of mischief for the future.

Once more: before the invention of implements of war, personal strength would count for much more than it did afterwards. Man is essentially a coward, fighting when he has some real or supposed advantage; in other words, when he is the best man. Before the application of art to war, the riots of the world would be conducted by powerful bullies. The record is too true to life to blunder on a point like this. "There were giants on the earth in those days," and consequently, "The earth was filled with violence." Finally, we are told that the "sons of God" formed alliances with the "daughters of men." As might have been expected, the first great division among men was created by moral considerations. Never since have goodness and badness been so separated socially. Immediate intercourse with God on the one part, and an almost total absence of discipline on the other, would produce just such a state of things. But we are told that ere long alliances began to be formed between the families, and the fact is attested by similarity of names. At last, identical ones occur in the two genealogies, indicating near kinship.

In the Heroic Age, what human historian would have summed up four thousand years of history in the lives of a dozen religious men, giving the great world of action a shadowy position in the back-ground? More especially, who would have written an account of a period of seventeen hundred years before the Flood,[1] without naming any of its Alexanders and

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[1] **The Flood.**—It would be strange, indeed, if survivors of a universal deluge should have failed in devising methods to perpetuate the remembrance of it. According to the narrative of Genesis, the family who survived the deluge constructed the Ark. They were qualified, therefore, by mechanical skill to erect commemorative monuments. The Scripture histories have one striking peculiarity. Designed to record the history of the world in prehistoric times, embracing its secret history as related to the Creator, they

Cæsars, or describing one of their great battles?—The point of view is a New Testament one, and is thus in advance even of our own age. At the same time, the writer had a true appreciation of the permanent use of the arts. He records the name of every member of a talented family, including their mothers. He lets us know who invented poetry, who music, who the use of iron, and who was the first nomad, while they who filled the world with noise and war were left to oblivion.

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necessarily contain facts out of the range of experience. When this is the case, other matters are incorporated that give the narrative verisimilitude. In the record of the Flood there is an example of this. By divine prenotification, Noah saved himself and family from a calamity that overwhelmed the world. Who according to the account was this Noah? He was the man who built the Ark; chosen, therefore, not only for his goodness, but for his mechanical skill as the primitive man of a new world. Through the mechanical genius of this man and his family, the valuable improvements in art of seventeen centuries were carried over, and placed in possession of an infant race. There was divine wisdom in this. In the following narrative, it is related that this family settled in the Land of Shinar, and set about erecting an immense structure whose top should reach to heaven. The family who built the Ark were able to build the Tower of Babel, being men of large conception and enterprise. There is extant evidence that Noah's mechanical genius was propagated in his descendants. The Tower of Babel has excited the ridicule of thoughtless men in every age, especially in view of its traditional object.[1] The reflection that the branch of the family which migrated into Egypt, occupied themselves in putting up structures of the same character, and not one but many, might inspire a modest gravity. Some of the Pyramids were built before the invention of hieroglyphics, and therefore at a very early period Such monuments raised by an infant world cease to appear remarkable when it is recollected that Noah was the father of the race. Work on the Pyramids must have commenced immediately after an arrest was put on the progress of the Tower of Babel. The Pyramids were in fact another version of the same great work.

The object of the Pyramids is comprehensible when the light of revelation

[1] The Tower of Babel could be a rallying place only by being a place of refuge from dreaded calamity, such as a flood.

The Account of the Fall of Man.—The story of the Fall has verisimilitude. Man can adopt a new character, and sensuousness brings him to the level and the fate of the brute creation. It would have been unwise in the Creator to establish a race without material tokens of allegiance. The amount was a matter of indifference. In Europe, estates have been held for centuries on very trifling conditions—the memory of the reader will supply illustrations. The "tree of the knowledge of good and evil" had significance, by announcing danger, while it reminded that possession was not ownership. The command made obedience the symbol of allegiance, while the nominal character of the condition aggravated the crime of disobedience. The temptation was addressed by a false spirit from other worlds through the organs of the most graceful creature

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dispels the Egyptian darkness that envelopes them. In structure they are very peculiar. One of them is nearly five hundred feet high, and in no part presents five feet of perpendicular wall. The Pyramids are immense four-sided roofs, each side presenting the face of a tapering staircase. If round instead of square, they would suggest amphitheatres with the seats directed outwards. If, in imagination, a position is taken on the low range of hills where they stand, at the season of the annual overflow, and the Nile is watched as it extends its volume further and further in the direction of the observer, till it laves the hills on which he stands, and almost touches the great pyramid of Ghizeh, the object of these structures must become apparent. Egypt is a land of floods, it is the land of the Pyramids. The object of the Pyramids has been forgotten even in Egypt. The impulse that gave them birth was a general as well as a local one. For ages the human mind was agitated by a general awe, which in Egypt arose to terror annually, when the Nile by its overflow changed the country into a lake. The mound builders of America were influenced by the same fear. The memory of the fear and of its cause has passed; but its products are destined to stand for ever. The stairway of the Pyramids was once covered with a hard casing to preserve the steps.

on earth. This affords the only possible explanation of a fall. Successful temptation by the mind itself, in the splendid circumstances, was out of the question. Self-prompted ruin in perfect creatures, environed by such surroundings, would have presented an inexplicable mystery.

The Author of Genesis had firm grasp of one important idea. Principles which, even when generalised, stand the ordeal of advancing intelligence and appear more valid by enlightenment, rest on the rock of truth. The more advanced in culture, the more firmly do nations cling to the conviction, that by representation alone can the affairs of multitudes be managed. The principle is inwoven in the radical relations of mankind—those of parents and children. In Genesis, it is represented as the fundamental principle of providential government. It is appealed to again in Redemption; in fact, it is the justness of the principle that makes Redemption possible. In another respect the author is in advance of the Jewish standpoint, presenting rather that of the New Testament. Had the Jews linked the work of the Messiah with sin, they would have escaped the mistake of rejecting Him.

When the Fall is viewed as the determining factor of universal history, it awakens thoughts fitted to inspire the bravest hearts with awe. In estimating the quality of sin, the standard is not the littleness of man, but the greatness of God. The ruin of a whole race for ever by the distributed guilt of one act, stereotyped in the individual conscience by the sense of divine anger, will illustrate to eternal ages the overwhelming character of divine justice. The sum total of guilt is found when sin is multiplied by the infinity of God. This is the lesson also of Atonement by an Infinite Personality. The sorrows of the human family have a tremendous source.

Man is the member of a large concern. The sceptical position is maintained by belittling him out of proportion to his conceptions, as it belittles mind in general. A being who conceives the unlimited in time and space is not a comet with an immense trailing atmosphere without a nucleus. So large indeed, are the conceptions of men, that no amount of intellectual pressure will ever startle more than a small minority into the circumscribed views of the sceptic. They are too small. When immortality is denied, it is easy to ridicule the vast stake involved in connection with another life. Men like to throw for large stakes.

It is confirmatory of the miraculous character of Bible facts, that the reciprocal affairs of God and men are uniformly represented as arranged by compact. It would have been strange, indeed, if men had been left to discover their duties, and surmise their rights. The very iteration of the idea of covenanting impresses a sense of its divine origin. With Adam, with Noah,[1] with Abraham, and afterwards with his descendants, does God enter into covenant. Underlying these covenants is always detected a more important one, through which intercourse had been re-established with a lost world, "*My* covenant." At the same time the true perspective is never lost. Man is never an equal contracting party, but accepts both duty and promise by divine arrangement. Infinite wisdom can make no mistakes, can receive no suggestions, as, on the other hand, absolute dependence can never dictate. Human invention would have blundered fatally on a point like this.

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[1] The importance of the covenant sign given to Noah is seen in the fact that, in a rainless country like Egypt, where the rainbow would be seldom or never seen, the terror of floods rose to the highest pitch.

THE EXODUS.

THERE is law or method in the supernatural manifestations presented in the Bible. Demonstrations are placed in every instance where the leverage was greatest. Adam and Noah were progenitors of a world; Abraham, Isaac, and Jacob, of a race. If God appeared to Hagar at Lahai-roi, in behalf of Ishmael, he was the founder of one of the permanent nations of the earth. Who can doubt that the theistic tendencies of the Arabs depended as much on Hagar as on Abraham? The miracles of the Exodus were performed in the most central country of the ancient world, and no doubt did much to perpetuate the knowledge of One Supreme God.[1] They may even have had something to do with the final acceptance of Christianity by the western nations. Nothing but a living tradition of the Exodus in the country over which he ruled, could have suggested to Ptolemy Philadelphus the idea of translating the Scriptures, a book prominently containing very discreditable references to Egypt. The miracles of Elijah and Elisha were performed not only when the faith of Israel, but when Israel itself, was on the verge of extinction. The manifestations in Babylon and Medo-Persia were made before men who had the world at their feet, and who could make the lesson of the fiery furnace and the lion's den tell to the ends of the earth. The miracles of the New Testament were performed in the "fulness of time," which was identical with the Augustan Age.

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[1] It is impossible not to detect Jehovah in the heathen Jove.

Turning now to the Exodus, and to the later history of the Israelites, we find that the facts of sacred history, like those of science, have a meaning and a purpose, which give them an evidential value. We select briefly from many instances—

(1.) **The Sojourn in Egypt.**—The setting of the story of Egypt gives probability to its realistic character. In Egypt, the Israelites learned the lessons of civilisation by gaining a knowledge of the arts. A nation of nomads would have been unpardonably rude. Ability to construct the tabernacle proved that the Egyptian sojourn was not in vain. Their forcible emancipation gave a rude shock to two false tendencies—to atheism and oppression. God demonstrated His existence and His hostility to slavery. The combined lesson was worthy of the expense, and did something to alleviate the miseries of the world. God was never again totally forgotten, and ever after men knew that slaves should be well treated. The idea, although not always acted on, was of immense value.

In Egypt the Israelites obtained protection in their weakness, a familiarity with the industrial arts, an increase in numbers, and they became world-renowned by their emancipation. The remarkable numerical accessions in the Egyptian sojourn have not been examined with sufficient reflectiveness. Too exclusive attention has been directed to the people as a *nation.* Aggressiveness enters into the very idea of a church. The Israelites, while exclusive in a degree, were never entirely so. Abraham administered initiation not only to Isaac, but to Ishmael; Isaac not only to Jacob, but to Esau; and one and all of them, not only to children, but to servants. When all distinctions were levelled by common calamities, servants would become identified with the tribes; and at particular times, as in the days of Joseph and Moses, many Egyptians would incorporate themselves with the church. The inspired writer does not state facts so obvious to common sense. Of course there was a remarkable natural increase, but churches are not perpetuated by natural increase alone. The "mixed multitude" were people related by marriage and descent, who had not submitted to initiation.

(2.) **The Calamities of the Jews in Egypt,** again, are a striking instance of historic justice. It was in reality an Israelite who prepared the way for their oppression. In the interest of Pharaoh, Joseph reduced the Egyptians to the position of crown serfs. His own race were very properly the first to feel the blunder. The Israelites were not domestic slaves, but public property. The right acquired for Pharaoh would be held tenaciously, for the East is a land of unchanging customs. To-day Egypt is the only "civilised" country in the world whose rulers command the unrequited labour of the whole people. In Egypt, Joseph is a living fact.

(3.) **The long wanderings of the Israelites,** if real, would become engraven in the memory of the lonely inhabitants of the desert. There is no disappointment here. In Arabia the name of Moses is a household word. There are traditions of the Exodus everywhere. There are the "Wells of Moses," the "Baths of Pharaoh," the "Mountain of Moses," "the Mountain of the Desert of the Wanderings," "the Tomb of Aaron," &c., whilst the whole desert is emphatically called by the Arabs "The Desert of the Wanderings." When the country from Sinai to Kadesh Barnea has been thoroughly explored, many more reminders will no doubt be found.

The object of the wilderness isolation was to remove the church from contact with the world, that contracted habits of an evil nature might be overcome. Moreover, as in the desert the ordinary course of nature is wanting, the earth being without form and void, Jehovah had the opportunity of proving authorship of nature by establishing a new course through which the nation was sustained for forty years.

(4.) **"The Tomb of Aaron."**—In eastern countries tombs have a strange power of survival. The sepulchre of Rachel was a landmark in the days of Samuel. It exists in a good state of preservation still. The locality of the tomb of Aaron is evidence that the Israelites did not enter Canaan by the direct route. It also establishes the necessity of mysterious supplies. The fact that there are tombs of Aaron and of Joseph, and none of Moses, is, further, an incidental proof that something very remarkable happened at the death of the latter.

(5.) **The Jewish People.**—The Author of the Bible knew that the evidential power of miracles would lapse with years. A moment after the parted waters of the Red Sea or of the Jordan had met again, the physical evidence had disappeared. By the "Conservation of Force," the mighty efforts of a Divine Being must perpetuate themselves, and the results of miracle remain in other forms to substantiate tradition, written and oral. The people of the Book, *whose early history the Bible is,* although expatriated for ages, live, book in hand, a providential nation of priests. The Book has given them vitality; they have given the Book vitality. The combined facts are at least remarkable.

(6.) **The Law and the People.**—The Israelites accepted the record with its overwhelming burdens. They who necessarily constituted the jury, accepted their own decision at vast expense. An effort in the present age, to convince the British people of an Israelitish origin, has failed, although acceptance of the idea would entail honour without a single burden. Can it be believed that the Israelites accepted an artificial, and, at the time, a discreditable history, with the Mosaic Law as its corollary? Intentionally, the Law was made unprecedentedly burdensome, that its final adoption in substance might be a standing proof of the facts on which it rests. On this account, the historians were not afraid to record the great unwillingness to submit. A nation was taken by force and compelled to adopt a new God. They were commanded to administer the rite of circumcision; a twelfth of their number were constituted priests, arousing tribal prejudices. Two tithes were enjoined every year, and an extra one in the third year; the first-born of man and beast must be redeemed at its full value, or sacrificed. Every seventh day, or fifty-two days in the year, must be sacred from labour. The nation must constitute one parish, and the whole male population visit a chosen place of worship three times a year, spending a week each time, and an extra week at the season of the atonement. The land must lie fallow every seventh year. There must be no land transfer, and no interest for money. In the event of sin, an animal must be conveyed to the place appointed by Jehovah, and sacrificed. Added to all this, was the perpetual annoyance from ceremonial uncleanness, with its purification. The chronic effort to escape from these burdens, noted by the Jewish historians, has the ring of truth in it. They were finally submitted to in substance after the Babylonian Captivity. The last symptom of restiveness was manifested against the tithe. That Malachi was successful in his exhortation, is proved by the tithe of mint, anise, and cumin, in after days. The providential object was accomplished when the burden was shouldered, and immediately inspiration, both prophetic and historical, ceased.

It will be said that the Jews of the Captivity lived eight hundred years after Moses, and had very little more proof of the Mosaic record than exists at present. The Jews were not fools, nor has their religion made them such. Only overwhelming evidence of the facts could have induced them to accept the burdens imposed. Their convictions were matured by well-calculated expedients.

In the first place, they had found that the unparalleled sacrifice involved in obedience strangely brought extraordinary prosperity, and disobedience overwhelming ruin, confirming both the promises and threats of the Law, as well as of special prophets, who always announced impending events. The prophets made the miracles of Moses credible by working miracles.

Secondly, the Tabernacle, whose detailed description occupied so much of the Book of Exodus, was ocular proof of both the Law and the Wanderings, till the Temple was destroyed by Nebuchadnezzar. It was placed in the Temple by Solomon. As a place of worship, it had grown old before the Temple was built. No nation in fixed circumstances would have erected a small movable tent at great expense as a place of worship. The Tabernacle was a concrete proof of the Wanderings and the delivery of the Law.

In the third place, the name of every Israelite, from Abraham down, was in the registers. A system of registration existed long before Moses, as is evident from Numbers, chapter i., and elsewhere. The existence of such a system evinced great progress in civilisation. Probably, every intelligent Israelite knew his pedigree by heart, together with scraps of history associated with the distinguished names. Every Israelite knew that he had a celebrated history extending far beyond Moses.

Lastly, the Temple of Solomon, a vastly expensive monumental proof of faith, was erected in gratitude when the boundaries of the promised land had been fully occupied. By providential arrangement it was built by, and bore the name of, the greatest thinker of any age—the person who gave the philosophers of antiquity the question that occupied them for centuries: the *summum bonum*—the chief good? That Solomon was not burdened with credulity, is evident from the Book of Ecclesiastes. To place the existence of the Law at that time beyond doubt, on the death of Solomon the Ten Tribes revolted and took it with them. As all know, it has been preserved to the present age by the Samaritans.

THE LAW.

Conscience is not a fixed quantity. The darkness that settles on the minds of men, by the withdrawal of the central moral sun, in greatly limiting the sources of happiness, makes each grasp at the little within reach, even when the act involves an infringement of the rights of others. Especially is the relic of the divine factor in conscience ever liable to fluctuation. If neglect of family discipline, or uncertainty in the punishment of crime, emboldens the depraved to acts of violence, doubts about the justice of providence, and still more about the divine existence, will aggravate the tendency. As a matter of fact, it is by ever-recurring calamities—sometimes special, often general—that the fear of God and a sense of right are maintained in the world. Sometimes the conscience of more than one continent is startled in its slumbers by outbursts of the moral fruits of atheism. The further removed from the true God by ignorance or unbelief, the more selfish and cruel do nations become. Individual atheists may occasionally display considerable generosity from a good *naturel*, or, it may be from a spirit of contradictiveness, but the genuine effect of the system is bad. Men are prepared for the announcement of the atheism of the Pharaohs by their treatment of the children of Israel. The ten plagues were designed to awaken the slumbering conscience of the Egyptians, the demonstrations at Sinai more completely to arouse the torpid conscience of the Israelites. The divine in conscience is kept alive by impressions, administered sometimes by outward, at other times by inward, instruments. The almost inaudible whispers so often and so generally heard, come direct from the Small Still Voice heard by Elijah on Horeb. This "Bath Kol" often becomes a raging tempest, awakening the utmost terror, as in the case of John Stuart Mill. God never forsakes the spirits He has made absolutely. Through conscious hostility, the first impressive contact always produces dread; the object being to make the need of a Mediator felt. This was the result produced by the manifestations and utterances from Sinai.

In the Israelites God chose a nation of witnesses, and therefore appeared not to representatives merely. The contact which each prophet obtained at the beginning, and in the course of his ministry, was granted to the whole nation. If God appeared privately to Moses in Horeb, He demonstrated the fact by appearing publicly to all who followed him out of Egypt, just as He still demonstrates His revelations by testifying in the individual conscience. They were called to witness not to what Moses had said, but to what they had seen and heard themselves. Had the law been revealed to Moses alone, how the changes would have been rung on the fact! Mahomet's angel spoke well, but too low to be heard by his followers. This defect cannot be affirmed of the Mosaic religion.

The whole scene described as having taken place on Sinai was in character. Appearances and utterances were full of majesty, and the effect such as could have been anticipated. The dread impression has been stereotyped in the mind of the Jewish nation. The great and dreadful name, "JEHOVAH," is never seen in written or printed characters but with awe, and is never pronounced.

In after ages the Israelites gave satisfactory proof, as has been illustrated, of their faith and of its fundamental facts. Commonly, one day is considered as sufficient to commemorate annually a great national event. For ages the Israelites devoted seven days, together with the time, expense, and fatigue of a pilgrimage to the central place of worship, in order to celebrate the

Giving of the Law. The evidential value is greatly enhanced by the fact that this was only one of three pilgrimages of equal length. The supposition of overwhelming events alone, such as those recorded in the books of Moses, can explain these immense sacrifices on the part of a nation so shrewd as the Jews are known to be.

The Mosaic ceremonies effected several important objects:—(1.) They impressed the idea of atonement by substitution and bloodshedding, and illustrated it in various directions. The adoption of sacrifice by Jehovah confirms the surmise of its original divine appointment. By the early institution the central idea of the gospel became familiarised to all nations. The adoption of an institution so objectionable by the nations is of incalculable value in apologetics.

(2.) The ceremonial law was essentially prophetic, expanding the first promise by adumbrating the work of the Messiah. In form it was adapted to the period as a picture-book is to a primary class.

(3.) The ceremonial laws trained the people to religious diligence. In nature men act by fits and starts. The Jews evidently were not supposed to be prepared even for regular Sabbath-day services. The ceremonies were an expedient to force constant circumspection. By requiring extreme cleanliness, again, they also promoted civilisation.

No human writer would have devoted so much space to the description of a structure so insignificant as the Tabernacle, and of the priestly robes and sacrifices. Extra minuteness is justified by their symbolical character—a symbolism which no Jew, not even Moses, ever understood. They only knew that all things were arranged "after a pattern in the mount." These descriptions are evidence also of the simultaneous origin of the whole law.

The Law of Moses has been charged with several defects:—

(1.) It makes no allusion to the immortality of the soul. It is overlooked that the Israelites were treated in a national capacity, and nations are not immortal. In Genesis, where individuals are addressed, the idea looms out distinctly. Moreover, silence on the subject, even where it might have been introduced, indicates the high antiquity of the Law. If the primeval paradise was on the earth, and longevity as great as the author of Genesis affirms, it would be long ere religion came to be thought of as a mere preparation for another life. There are two ways of looking at the subject—*i.e.*, preparing for the future by being prepared for the present; preparing for the present by being prepared for the future. In the Bible the former method recedes, and the latter comes slowly into prominence. Judged by this test, the Law of Moses has the mark of a high antiquity. It is forgotten too that law demands immediate action, irrespective of the future. It may be added also that no affirmation of immortality was made, because the matter had never been doubted. Two things must not be forgotten—that the Israelites came out of Egypt, and that the Book of Genesis formed the introduction to the Law.

(2.) A more valid charge is the sanction of slavery, the evil which the Exodus is supposed to have condemned. It is answered that what God does in His providence, He can do by positive permission or command. If Sodom was destroyed by fire from heaven, in other cases the Deity might employ men as the executioners of judgment. Serfdom and even slavery have issued in incalculable good to the world. It is doubtful if any people ever became industrious except by forced labour. The aborigines of America are fast disappearing from sheer unwillingness to work. By forced labour the Israelites were transformed from a tribe of lazy shepherds into a nation of industrious citizens. This was in every respect the greatest benefit they received in Egypt. In the wise providence of God the early world was a vast reformatory. Those whom the Israelites were authorised to enslave would be benefited by the process. This was the case, certainly, with those whose only visible means of support were war and pillage. Christianity is supposed to supply an instrument of civilisation, and a motive to achieve that make it possible to dispense with the severe methods of the early world. The school itself, by enforcing diligence in infancy, is such an instrument.

(3.) The very objectionable privilege of divorce granted by the Law was in reality a temporary compromise with polygamy. In condemning a simultaneous plurality of wives, in some cases a successive plurality was admitted on the principle that a divorced wife could not be so miserable as a polygamous one. To many well versed in the Hebrew language, "a wife to her sister," the much debated expression will always mean "one wife to another," or a condemnation of polygamy. It is a mistake to suppose that the Jews are or ever were infallible interpreters of their own Scriptures. Polygamists were certain to accept the expression in its non-idiomatic sense, and the modern Jews attach undeserved weight to the opinion of these ancient law-breakers. The fact that not only our Lord but Malachi treated polygamy from the point of view of divorce, shows that the Law of Moses came to be better understood even by the Jews. It is in favour of the idiomatic interpretation, that so construed the expression quoted is the only condemnation of polygamy the Law contains.

GOVERNMENT.

The Government of Israel was theocratic on one side, but on that very account represented the extreme of democracy on the other. With a code of laws so complete that it must neither be increased nor altered, humanly speaking the Government was an automatic democracy. As in all ages and countries a considerable minority have regarded democracy as the only condition of national happiness, divine wisdom announced itself by making the experiment at once. If not, the people would have sighed for democracy as they afterwards did for monarchy. Ill-balanced minds always gravitate to extremes. That it was only an experiment, and not a very successful one, is made apparent by the constant refrain of the inspired historians: "There was no king in Israel, and every man did that which was right in his own eyes."

No better proof of the realistic character of the records could have been given. Where the absolute is not strongly represented in Government, the laws fail of execution, especially against rich and influential criminals, leading in the end to general demoralisation. A people's Government becomes eventually the Government of the moneyed class. In democratic countries every person and thing is judged by a money-standard. Mammon is the grand thing before which all other excellence must fall and worship. The race for riches is the one great emulation. Where a monarch is, on the contrary, there is, at least, something above money that can keep pelf in its place. A true monarch will honour the deserving poor if the whole world should stare. In the period from Joshua to Saul, the Israelitish nation seems to have given itself up to ease, "art worship," and money-making. True, it was the period of individual heroism, and well it was for a craven people who often yielded up their patriotic deliverers, that God raised up miraculously endowed men to paralyse the arm of oppression. When the reins of power passed into the hands of Saul, he understood his charge well when he acted on the faith that the mercenary motive alone would bring them to time. He killed an ox, cut it into pieces, and sent it through the country with the command, "Thus shall it be done."

The literal truth of the Bible histories further appears in the preparation made for the introduction of the kingdom. God gave them a king in His wrath. No doubt; God is very angry when the administration of law is needed in any shape. It would be infinitely more satisfactory if each person were a law to himself. The divine anger did not alter the facts of the case. An ideally perfect Government had been found by experiment to be the very worst conceivable for imperfect creatures. The special preparation hinted at was the following:—The priesthood in Israel was made hereditary, because this was the surest way to perpetuate its objects. Every priest had a family as well as a tribal interest in maintaining the true religion. The system worked well for a time; in a perfect world it would have worked well for ever. Ultimately it failed, at the very source of its strength, family-training. All are familiar with the story of Eli and his sons. At this juncture Samuel was brought forward, and became the "father of prophetism" by founding the schools of the prophets. One system of instruction had failed; another must be tried. The appointment of prophets took the exclusive divine mediation out of the hands of the high-priest. Profane history makes the propriety of such a change apparent. A high-priest in Israel with full prestige would have made a kingdom all but impossible. A Church with a head is a power above the State, and a secret source of chronic agitation. A monarch and a chief-priest in the same city or country can only have their prototype in the prenatal struggles of Jacob and Esau. On account of the altered position of the priesthood, David, probably with much gladness in his heart, sang of another priest, a Great neutral One, after the order of Melchizedek. But the divine approval of monarchy was shown in other ways than by preparing for it. The first great outburst of inspired genius after Moses took place, not merely at the introduction of the monarchy, but in the persons of the founders of the royal dynasty. David gave voice to the gratitude of Israel in songs having been assured that the future universal King would be a child of the kingdom. Solomon, by copious illustrations, proved the identity of virtue and wisdom. He also wrote a remarkable song to illustrate the variability of mental states, or the instability of religious joy under the Old Testament.

Only where the full light of Christianity shines can even good government succeed. The imperfections of the individual which make rule necessary, cleave also to the monarch. The failure of the kingdom in Israel is accounted for partly by its character: power being limited only by divine action. When divine authority was repudiated by the king, the worst possible form of despotism remained. The honour awaited modern times and Christian countries of devising a government that satisfies all the conditions by reconciling liberty and authority—limited monarchy. A written constitution may be very admirable, but too abstract for general administration. Authority is needed. if possible, even more than law. The finding of the most enlightened Christian nations cannot be opposed by Scripture as some interpreters imagine. In the light of the fact that kings and queens loom up covered with the honour of beneficent deeds, amid the full development of the coming civilisation, what can "I beheld till the thrones were cast down" refer to, but the very changes occurring all over the world at the present moment—the replacement of despotism by constitutional monarchy?

PROPHETS.

Prophets in Israel.—The remarkable tendency in Israel to idolatry can be explained partly by the geographical position of the country. It was a narrow strip of territory, surrounded on all sides and penetrated into by little idolatrous nations, with whom each rising generation came into contact, and was tempted, probably by system, according to the wily advice of Balaam. It seems impossible for the young of Christian countries even, not to adopt the religion of nations with which they mix on equal terms, especially if it has the charm and prestige of antiquity. The establishment of theism as the permanent faith of Israel by the extirpation of idolatry, stands as an eternal monument of divine power and skill. The theism of Mohammedanism was formed under the shadow of Moses and Christ. The fatal Jewish proclivity was often checked temporarily by calamities, predicted and interpreted by the prophets. At length even the prophets failed. Before the captivity, by large majorities, they were on the side of wrong. On this account, no doubt, before and during the captivity, priests were once more called to the front. Both Jeremiah and Ezekiel were prominently the antagonists of false prophets.

During many centuries the prophets confined their literary work to the record of national events. For three centuries before the cessation of prophecy they wrote out their predictions at length. In other ages a prediction preceded the event briefly, the object being immediate effect. The written prophecies were not only more signal, but extended further into the future; in most cases their fulfilment could be determined only by future generations. Hence the necessity of committing them to writing. When it is affirmed by "criticism" that the prophets made no predictions, it only confirms the surmise that their writings have not been studied. Probably passages have been quoted from the days of Saadias Gaon without a glance at the originals. The records make fulfilled prophecy the proof of a prophet's mission, as well as of the foreknowledge of God.[1] It is true that the books contain more than prediction; and the acceptance of the other element was absolutely demonstrative of its inspiration. The Jews have always been a shrewd race. Think of persuading such a people that books occupied with the abuse of their ancestors, and written after the fulfilment of spurious predictions, were written ages before! or that a false Daniel or Isaiah, appearing three hundred years after the death of both, was the same man! There is simplicity in the idea that would create surprise, were it not known that the speculative mind is often deficient in practical conception.

It may be replied that the Bible was the product of an attempt by a clever nation to deceive the world. As a people the Jews have always maintained a dignified reserve, never making much effort to extend their faith. A people wise as they would never have assumed such burdens to deceive, just as such burdens were an obstacle to deception on their own part. Would a sensible people, whose object was proselytism, have made initiation dependent on circumcision? Indeed, divine authority alone could have forced the acceptance of such a rite by themselves. The daughter of Raguel was probably only one of millions who abhorred it.

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[1] See Isaiah.

Again, many of the most striking predictions bore upon outside countries. The captivity was only part of an extended effort to subjugate the world. The prophets foredescribed the extent to which the design would succeed, predicting the annihilation of many countries, notably of Nineveh and Babylon. It was impossible for an intelligent people to mistake the date and character of such announcements. The fulfilment of these with other forecasts accounts for the immortality of the books. Apart from prediction, most of them contain nothing but denunciation of the people that has preserved them.

The Messianic Prophecies.—The Messianic prophecies occupy a very definite place. They are rays of light, inspiring hope amid the darkness of despair. Before the captivity the whole Jewish nation had lapsed into a degradation from which there seemed to be no redemption. Following the "social statical law" of humanity, the law of lost equilibrium, they had fallen, like so many other nations, apparently to rise no more. Yet the prophets persisted in announcing a grand moral future for them. "The darkness shall cover the earth, and gross darkness the people; but the LORD shall arise upon thee, and His glory shall be seen upon thee." It was through Him, Who has brought perennial life to the modern world. As the Being whom the prophets foreshadowed was coming to do what human power had failed in, they were consistent in never scrupling to address Him by divine names, and to represent Him as the recipient of divine honours. They did these things with the full perspective of the subject before them. They acknowledge the unprecedented character of the undertaking—unprecedented not only on earth but in the history of worlds. "A new thing" is to be done paralleled to the creation of a "new heaven and a new earth," and indeed greater, because the first passes away. They recognise the fact that the coming of the King of Humanity would give the earth a unique place in the universal system. When all the predictions pointing out the Great Leader of the future are laid side by side, they present a complete outline of the life and life-work of JESUS of Nazareth. These predictions are easily singled out by the experienced eye, pointing as they do to a Being of superhuman dignity and power. The true source of scepticism is neglect of the Scriptures. The Bible has an honest face that inspires confidence. By a self-evidencing power it registers its facts in the spirit of the student. The Septuagint, as an expression of Jewish opinion, on the meaning of the divine books before the birth of Christ, should be studied by all who are able to do so, its imperfections notwithstanding. By inspired wisdom the apostles were taught to value its findings, uniformly quoting it. As an illustration of the insight of the Seventy, we refer to the much disputed text, Psalm xxii. 16. In the Hebrew it stands: "As a lion my hands and my feet." In an attack by a lion, the hands and feet of the prostrate victim would be extended and pressed in self-defence against the animal. In rage they would be seized rapidly in succession and perforated. The hands and feet of the prostrate Redeemer were pierced by His enemies. The LXX. give the substance without circumlocution.

Fulfilment of Prophecy.—The Messianic forecasts were intentionally enigmatical, and scattered throughout the Old Testament to prevent personation by an impostor. The true Messiah would grasp the scheme of prophecy, and realise it. Jesus of Nazareth is the Sun of Righteousness that illumines all, leaving no dark spot. The rejection of Jesus by the Jews evidenced their enthusiastic faith in Moses, and confirmed His divine legation. Moses condemned a man to death for gathering a few sticks on the Sabbath day—Jesus commanded a man to take up his bed and walk on the same day. This was enough. At any rate, although the New Testament is founded on the Old, the Gospel cannot be attributed to Jewish priestly collusion. By the arrangement of Providence, the Enigma and the Key are held by opposing parties.

The present weakness of idolatrous nations is extant proof of the commonest phenomenon presented in the Old Testament. When the Jews trusted in the Living God, "one could chase a thousand;" when they worshipped idols, they became an easy prey to their enemies. Wherever the Jews go, they carry the following prophecy with them in one of their sacred books:—"Seventy weeks are determined upon thy people and upon thy holy city, to finish the transgression, and to make an end of sins, and to make reconciliation for iniquity, and to bring in everlasting righteousness, and to seal up the vision and prophecy, and to anoint the Most Holy. Know therefore and understand, that from the going forth of the commandment to restore and to build Jerusalem unto the Messiah the Prince shall be seven weeks, and threescore and two weeks: the street shall be built again, and the wall, even in troublous times. And after threescore and two weeks shall Messiah be cut off, but not for himself: *and the people of the prince that shall come shall destroy the city and the sanctuary; and the end thereof shall be with a flood, and unto the end of the war desolations are determined.*"[1] The same book contains another most remarkable prediction:—"And the kingdom and dominion, and the greatness of the kingdom under the whole heaven, shall be given to the people of the saints of the Most High, whose kingdom is an everlasting kingdom, and all dominions shall serve and obey him."[2] Nothing but the jealousy of Christian nations prevents this latter prediction from being fulfilled in our own day, as the first was 1800 years ago. Of the non-Christian nations it may be said—"They are food for us, their defence is departed from them." The Jews are not referred to in the passage, but those whom St. Paul called "saints,"—*i.e.*, professing Christians.

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[1] Daniel ix. 24, 25, 26.

[2] Daniel vii. 27.

THE NEW TESTAMENT.

The Gospel Message Suited to the Needs of Man.—If the Jews of the gospel age had worked back to first principles, the greatest blunder in history would have been avoided. The Messianic promise had its starting-place in sin and death. Conscience-stricken fugitives from God, the first pair were examples of guilty proclivity. Whether bloody sacrifice originated in Divine authority, or in human dread, it equally expressed a want, pointing out, at the same time, the direction in which relief was looked for. The Pharisaic conception of the Messiah, however, was inspired by national oppression, forgetful of the fact that no form of civilisation, no political arrangement, can reach the source of human woe. An emancipation so broad that every man "did that which was right in his own eyes," once given, only made the Israelites more wretched. Something else was needed—a freedom founded in the love of God, and whose essential quality is moral power.

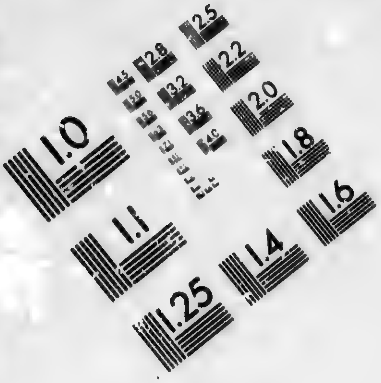
Incarnation and Atonement.—Anciently, the demands of conscience were expressed by sacrifices, sacred and profane. When the Jew refused to offer animal sacrifice to God, he generally ended by offering his children to Moloch. Atheists, almost without exception, become such to escape a God Who fills them with terror, the changes being rung on the divine "cruelty." When the conscience-troubles of an individual, or of a community, lead to scepticism, unless Christian light interpose, the ultimate landing-place is superstition, emancipation from the findings of conscience being in all cases impossible. The voice of conscience is the voice of God, Who cannot leave His erring children alone. Moreover, as the companionship of God alone can solace an immortal spirit, when Cherubim with flaming sword block the way, necessity, perforce, turns the appeal for happiness to the creature. Thus, offended justice is also the occasion of human passion.

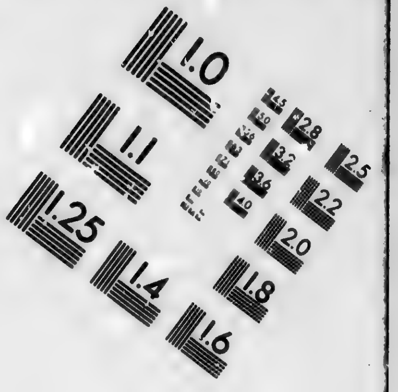
The gospel of Jesus Christ goes to the root of the matter, and grapples with the fundamental difficulty. By the Incarnation, the awe-inspiring distance between God and man is annihilated. As the source of dread, Deity alone can still the alarms of guilt. By the Incarnation, He stoops to conquer, and how low! The magi, led by the prophecies that also inspired Virgil, expected the birth of a Great King. Where would the King be born, if not in the palace of the King? They appealed to Herod, but found Him in Bethlehem, not in a palace, but in a stable, and cradled in a manger. The humble acts of a monarch inspire enthusiasm, and disarm fear. By an Incarnation that blossomed in a life devoted to the alleviation of human woe, and fructified in self-sacrifice on the Cross, the Deity stooped to solicit gratitude and affection.

The objective cause of the first promise fixed the object of the Divine Epiphany. Christ came to cope with death, a fact which also determined the character of His miracles. By raising the dead, by removing any part of death in an eye, an ear, or a limb, and the sickness that produces death, He proclaimed Himself as the Resurrection and the Life. The final object of the Incarnation was Atonement. Death is a separation of body and spirit, and not the annihilation of either. When the Deity actually underwent death, the purpose must have been tremendous. He prepared the way for a universal resurrection, by removing the guilty cause of mortality.

John the Baptist.—Very properly the last prophecy of the Old Testament announced the Forerunner of Messiah. Although John presented none of the signs of a prophet—"he did no miracle"—his success was unprecedented. The history must be unauthentic, if such extraordinary success cannot be satisfactorily accounted for. A few curious individuals might have gone out to desert places to gaze on a wild hermit, who accosted wayfarers with the command to repent; but the affirmation that "all the country of Judea and they of Jerusalem" not only went out, but accepted a new religious rite at the hands of an unattested prophet, has a suspicious look. Here another illustration of the consistency of scriptural records presents itself. The early facts of the gospel make the phenomenon perfectly comprehensible. The prophetic silence of centuries was broken in the following manner:—Zacharias, the father of John the Baptist, acting by course as officiating priest, was detained longer than usual in the temple. He reappeared speechless, the people naturally inferring that something remarkable had happened, that "he had seen a vision." What had transpired came to the public knowledge, and when the child was born, and his predestined name inscribed on a tablet, the speech of Zacharias was restored. The matter created a profound excitement at the time. Within a space of six months the country was further startled by the report that shepherds, warned by a vision of angels, had come to Bethlehem and had pointed out a Child, belonging to the lineage of David, and born in a stable, as the long-expected Messiah. The excitement was carried to a still higher pitch a few days afterwards, when Wise Men came to Jerusalem from the East, declaring that they had been guided by a meteoric light, and inquired about the birth of the King of the Jews. As if to engrave the whole occurrence in the memory of the generation, and give it a terrible celebrity, the country was horrified by the slaughter of the Innocents of Bethlehem. Little did Herod dream that, by his murderous act, he was preaching the gospel and preparing the way for its success. When John appeared, just thirty years afterwards, at the age when a Jewish prophet began the duties of his office, the country was prepared to receive him.

Jesus the Christ.—The events that took place at the birth of Jesus marked the entrance into life of a Being inconceivably great. They are explicable on this supposition. If heaven and earth were moved at His coming, it was by the advent of a Person of matchless dignity. And the providential commotion at His birth was of a piece with all that had gone before. The history of the world had been a preparation for His advent. Announcements regarding Him had been made from the dawn of human life. The most





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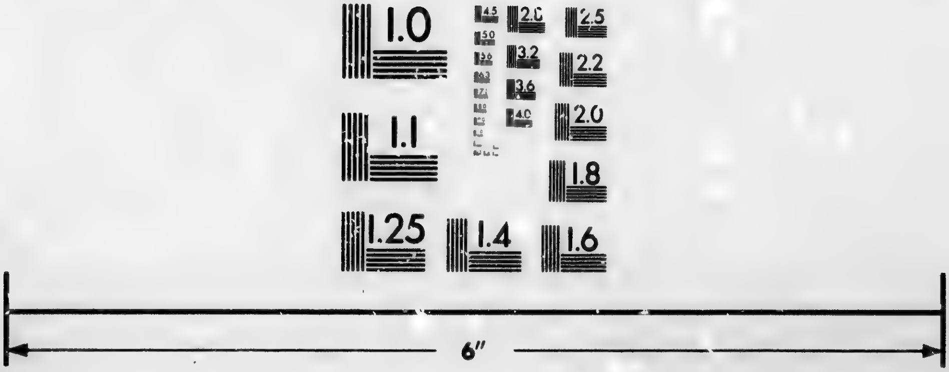

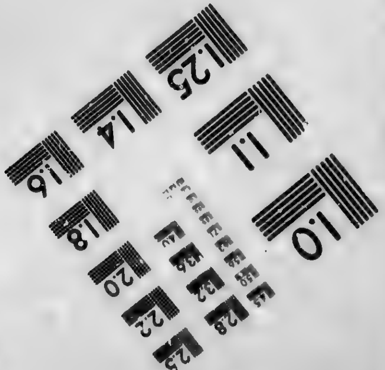

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finished efforts of prophetic inspiration were hymns sung in His honour by sweet singers of Israel. Even the greatest of gentile poets had celebrated His praises. If Jesus is the Incarnate Deity all this was as it should have been. The fact sustains the announcements—the announcements sustain the fact. The arrangements by which the Son of God was heralded into human life were prepared by a divine master of ceremonies, and were perfectly in keeping with the event. The object for which He came presupposed His Divinity. It was to accomplish what all expedients, human and divine, had failed to do. If Jesus effects what a law heralded by the Deity from the top of Sinai, what prophecy on the lips of men inspired with divine eloquence, what philosophy presented by spirits the mightiest among the sons of men, could not do—He is more than human—He is divine.

Christ's Victory inaugurated a New Era in the Spiritual World.—Both John and Jesus began their ministry by preaching the "Kingdom of God." A more definite idea could not have been presented in more exact words. The authority of God had been overthrown, and an empire of evil established. The power of Satan had never been so demonstrative as at and before the coming of Christ. The changes are rung on the superstition, or facility of belief in spiritual influence, common throughout that age. Extreme superstition in the most intellectually enlightened age of the ancient world is a curious fact. The best explanation, certainly, is that of remarkable spiritual manifestation. The fact that spirits are represented as occupying the bodies of men, by possession has an evidential value. In a universe of matter it may well be supposed that all souls are created in an embodied state, and become disembodied by the judgment of God. On this view the verisimilitude of the New Testament is perfect. In consistency with this, good angels always *appear* when communicating with men, bad ones never. The demons Scripture presents were wretched in a disembodied condition. "They walk through dry places seeking rest, and finding none." They beg to be allowed the occupancy of the bodies of swine rather than to be cast out into the abyss. Embodiment was evidently a state conditional to their happiness.

If man fell by the help of evil spirits, there is no inconsistency in supposing that he can rise only by the inward help of Divine power. This was symbolised by the mastery exercised by Jesus of Nazareth over human dispositions, by casting out devils. If Satan originated ruin, he will do his utmost to maintain it. Consistently, he is represented as holding a multitude of intrenched positions, and meeting the Son of God openly at the commencement of His ministry. An open manifestation, in accordance with the uniform Divine policy, was permitted, that Christ might openly and publicly triumph over him. Satan was never allowed to do wonders, except in the presence of Divine miraculous manifestation. "Falling as lightning from heaven" meant the annihilation of the power of visible manifestation in fulfilment of an old oracle—"The unclean spirit shall pass out of the land."[1] Involving an obliteration of the visible entrenchments, therefore, complete victory makes the position of the Christian controversialist a peculiarly difficult one, inasmuch as he has to appeal to a state of things that has passed away. For behoof of those who prefer Gentile to Jewish testimony, by Divine arrangement the great Oracles of antiquity belonged to the Greeks. The Oracle of Delphi, both by its utterances and by their cessation in the early gospel age, gave remarkable confirmation to Divine Truth. The Pythian deliverances became very intermittent after the birth of Christ, and ceased finally in the time of the Apostles. A theory that supposes intelligent men in enlightened countries like Greece and Judæa—Plato the philosopher, and Luke the physician—to have been "born fools," must be a mistaken one. It is imagined that the Jews by inexplicable dullness, mistook ordinary disease for demoniacal possession. That all sickness was not attributed to demons, presupposes a principle of diagnosis in general application. Possession was symptomised by superhuman manifestations. No known disease, ancient or modern, could endow with strength to rend the strongest chains, or with knowledge to make supernatural announcements. In Judæa, as well as in Greece, the presence of spirits was detected by superhuman manifestation.

The Kingdom of God.—A kingdom is a monarchical government. Its full idea embraces a king, subjects, laws, instrumentalities, privileges, rewards, punishments. Jesus commonly employed "the Kingdom" to denote some one or other of its constituent parts, often only a particular phase, as the manner of its coming or growth. He Himself was the King who went into a far country to receive a Kingdom. The Kingdom of God is established in the hearts of men in love by recognition of the union of two thrones, as well as of two natures—the throne of David and the throne of God, in the Person of Him Who is at once the Son of David and the Son of God. An object of the Incarnation is to annihilate the distance between the created and uncreated Natures by the closest possible alliance. The infinite hiatus must be felt in all worlds, and therefore the Incarnation may have a universal bearing, a position abundantly suggested by Scripture. At the moment of His birth the Babe of Bethlehem was the object of angelic worship—in illustration no doubt of the fact that He had come to "gather together in one, all things in heaven and on earth." The Incarnation may have an important bearing on other worlds in another direction. From relatedness to Him who occupies the throne, the redeemed humanity will constitute the royal family of heaven in the ages to come. The logic of the subject suggests this, and the idea is acknowledged by the inspired writers. They are predestined *kings* and priests unto God. Their deep experiences will fit them to rule, and with special wisdom over newly created worlds. What else can Jesus mean by saying "Be thou over five cities," or "Be thou over ten cities." Taking suggestion from Jesus, as he always did, St. Paul told the Corinthians that they would "judge angels." Thus the comprehensive ulterior purpose justifies the machinery of Redemption.

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[1] Zech., xiii. 2.

The ministry of Jesus of Nazareth fully sustains the preconceptions formed of the Messiah by the intelligent study of the prophets. Wisdom flowed from Him as from its fountain. Perfect compositions are the result of efforts which few have patience to make. A prophet had to await his message, and then delivered it like a school-boy. Jesus spake with authority and without dictation on subjects furthest removed from the range of human thought. A question was asked and, without premeditation, parable after parable was uttered, perfect in idea and symmetry, and undying as the Eternal. These parables are not the patchwork of two minds. Their perfect preservation proves what might have been anticipated, viz.—that a wise and great Teacher, belonging to a nation which above all others knew the value of *written* records, and who Himself in reality treated tradition with disrespect, would not leave the history of His own great life to the uncertainties of tradition.

The Four Biographies of Christ.—The sceptical position in reference to miracles generally has fostered the belief that Jesus of Nazareth was unprecedentedly unfortunate in His historians. While Socrates left a Plato and a Xenophon to preserve his opinions, our Saviour, while desirous of immortality, failed in the power of discerning character which distinguishes all great minds, and produced no disciple able to record His life faithfully for posterity! In the disciples of His disciples, again, we are informed that he was still more unfortunate. In fact, all epochs of Jewish history produced the same disappointing results. Moses, Elias, Christ, great teachers of Truth, only succeeded in propagating lies.

On the contrary, what is the real state of the case? We find that Jesus Himself prepared two able biographers among His closest followers; while two disciples outside His immediate circle, impressed by the wonderful facts, investigated the whole subject, and wrote independent accounts. This is what might have been expected from the impulse communicated by a great mind. The historians of Jesus were all comparatively learned. St. Matthew was a publican; St. Mark, sister's son of Barnabas, probably a Levite, while St. Luke was a physician. St. John's intimacy with the High Priest indicated either that he had been once a student in Jerusalem, or that he was a priest. If both John and Peter were on one occasion characterised as "unlettered," it was because St. John would have little chance to interpolate his wisdom in the company of the first spokesman of the apostolic group.

The three Gospels, known as "Synoptic," are inductive; St. John's Gospel is deductive. Matthew, Mark, and Luke feel their way to the conclusion, and help others to feel it; John accepts the conclusion, and presents an Incarnate Deity in action. The difference of style in the Book of the Revelation is accounted for, not only by difference of subject, but also by the fact that all powerful minds have two strongly contrasted sides—the one calm, loving, thoughtful, the other enthusiastic in its fervour. The exile in Patmos, solaced by wonderful visions, reawoke the Boanerges nature of the loving disciple.

The resemblances among the Synoptists can be explained in two ways: (1.) Very striking facts appear to all in nearly the same way. When recorded at once, before divergence has been created by interpolated thought, they will be presented in almost identical form. That the facts of the Gospels were jotted down at once, may be surmised from the perfection of the parables. Like a poem, a parable is a word-painting. The gospel parables must have been recorded nearly *verbatim*. St. John's Gospel, on the other hand, betrays reflection on the Personality and Life of Christ, prolonged till the parables and all but the most striking miracles had faded from memory In all probability, this statement only suggests the true explanation. If Moses recorded the transactions of the day when the day closed, it would be strange indeed if Messiah's great life were allowed to pass on without a written record. Probably, minute day-by-day reports were prepared from the time Matthew, the Publican, was called. They would be written in the language of the country, and would constitute the Hebrew Gospel of tradition. These full reports would be to the biographers of Christ what the Books of the Wars of the Lord, of Jasher and of Iddo, were to the old historians. Like all other histories, the Scripture histories may have been based on carefully prepared Chronicles. The view here presented agrees with the fact that the Gospels differ from each other most at the beginning, before reports could be prepared.

(2.) The other explanation of the unity of the Gospels is, of course, the Unity of the Inspiring Spirit of God. The style of all the Bible histories is nearly identical—indicating One Author. Books of Prophecy and the Epistles vary much more, because the truth was poured into the mind of a writer as into a mould, and then expressed by divine direction.

The Divinity of Jesus was manifested specially by divine works. The Christian position has been weakened by regarding miracles too exclusively as attestations. Miraculous interference presupposes a necessity for it. It is justified on the supposition of fatal injury to the works of God, which creative power alone can repair. Undoubtedly, many miracles were wrought to substantiate the existence of divine interference. But what was the object and necessity of such interference? Miracles would be nugatory if they failed to point out obvious evils and manifest power to cope with them. This was in a special manner the work of Jesus Christ, as distinguished from that of all who had come before Him. Others had proved that they were prophets; He proved that He was a Redeemer.

To deny that overwhelming evils exist would be impossible. To say that they result from the imperfections of nature, would be to admit what sceptics wish to avoid by denying miracles. To say that the woes of humanity can be removed by human instrumentalities, would be to negative the whole past history of the world. Only in proportion as Christianity is received do the miseries of mankind disappear. The centre and circumference of the evils of the world are in and around man. Wrong, diseases, tempests, earthquakes, droughts, deluges, pests—of all of them man is the chief sufferer and the chief cause. That there is such tremendous friction in the works of God should of itself suggest the existence of free-will. Either the Creator erred in making the machine, or man bungles in working it. Where a bungling will is certainly involved, it would be gracious in man to own his fault. *Humanum est errare.* The very distinction between right and wrong implies a capacity for varied action. Conscious wrong-doing has made every man a violator of the highest law of his nature. Wrong and suffering are correlatives. The Being who created man with the power of distinguishing right from wrong, feels the distinction and enforces it.

In the conception of the Evangelist, St. Matthew, Jesus came to abolish wrong. His name is called JESUS, because He saves His people *from* their sins. He is exalted to *grant repentance* and the remission of sins. The immediate effect of sin is felt in the spirit, the immediate effect of its radiation in the body. A sufficient number of bodily ailments are known to be hereditary, and the hereditary effect of wrong-doing, to establish by the Baconian method, the fundamental philosophy of the Bible on the subject, viz., that disease and death are results of sin. By rebuking disease in every form, and by raising the dead, Jesus abundantly proved His ability to cope with these results of evil. The outward judicial and providential effects of sin are malaria, atmospheric inclemency, storms, droughts, floods, earthquakes, &c. Science is suggested by the same Spirit who filled Uri with signal mechanical skill, and is confined to Christian countries. By science, human life is being gradually lengthened, and many of its evils checked. To display His power in the sphere of meteorology, Jesus stilled the storm on the sea of Galilee. The atmosphere is the source of all our physical blessings. In providence Jesus has demonstrated His power in this department, sufficiently to prove that, when the world has become Christian, many of its calamities will cease. Famines are very uncommon now, and especially in Christian countries, compared to what they were in the time of the Roman Empire, or in the early days of Egypt. It will be recollected that an earthquake occurred at the very moment of Christ's Death, and another at the moment of His Resurrection, indicating control in a region of apparent lawlessness.

More marked if possible than the physical have been the intellectual and moral effects of the gospel. By awakening a thirst for knowledge it has raised the nations to a higher level. No other institution has fostered intelligence among the general public to an extent at all equal. By inspiring an immeasurably high ideal of life, it is slowly and surely elevating the masses of Christian countries into a new moral sphere. The gospel has made men less cruel and more benevolent, witnessed by the abolition of slavery and of inhuman amusements, as well as by mitigation of the severities of war. It has inspired feelings of tender care for the afflicted and unfortunate. At the Christian era the "exposure" of infants and the aged was a common practice among the civilised gentile nations; while even in Judea a priest and a levite could pass the bleeding victim of robbery by, and leave him to perish at the wayside. The necessities of justice under the old dispensations gave the Deity an aspect of severity—a spirit that diffused itself throughout the world. It seems that the example of an incarnate God alone could reawaken the impulse of kindliness. In morals, religion is the mainspring of the human mind. What men's gods are, they are, creating the natural necessity of an illustrious divine example. A great Being will demonstrate his greatness by doing great things. Only one side of the divine nature—the least attractive one—had been put in relief in the primary dispensations. The condescension of a Divine Personality, in living with men at their own level, as a kind benefactor, revealed the other side; while His submitting to insult, and giving up His life for them, in the interest of mercy as well as of justice, revealing both, was worthy of a Being possessed not of a *quasi*, but of real greatness. The result has been that millions of people in Christian countries have come to cherish such a Being as an object of supreme affection. Human religions have never done more than make Him an object of dread—steeling the heart against sentiments of charity.

Divinity in Jesus was manifested by operating in His own name by His own power. It was further demonstrated by miraculous results following the mention of

His name. The distinction between divine and demoniacal miracles was broad and clear. In many cases, no doubt demoniacal manifestations were the result of art, in all cases the object was mischief. Jannes and Jambres intensified the woes of Egypt, as the demons who occupied the bodies of men increased their wretchedness. None knew better than the Power of darkness that a divided kingdom must fall. Demoniacal miracles, whatever their real character, were wrought in the interest of mischief and falsehood. If miracles were ever wrought to turn men from the truth, it was presupposed that the truth had been revealed by proper divine signs. The Pharisees could not cast out devils. It was in sarcasm that Jesus put the question.

The power of Jesus was uniformly employed to advance the welfare of men, no temptation being able to make Him deviate from His course. Two miracles of a destructive nature are recorded, whose wise purpose it is easy to penetrate. As a divine Being, the Messiah is judge of all the earth. In some way He must display both power and intention to execute judgment. The Jews, while prohibited from using swine-flesh, kept the forbidden animal for sale to the Gentiles. This gave Jesus His opportunity. The destruction of the swine, by arousing the conscience, filled the country with terror. About the time of His death He gave a striking proof of power and also of merciful self-control. Instead of vindicating Himself by calling legions of angels to His defence, He blighted a barren fig-tree. For years after that leafless tree would be pointed out with awe as the one which Jesus blasted by a word. Not petty spite, but the gentleness of divine warning, administered by parable to moral obliquity, was the lesson of the barren fig-tree.

The absence of any notice of the Pool of Bethesda by Jewish historians is perhaps remarkable as an illustration of the purpose to obliterate every evidence of the gospel. Like all wonderful scripture stories, it has a way of speaking for itself. The Pool of Bethesda must have been the shrine to which the inveterate enemies of Jesus resorted for cure. This is obvious, if the gospel story of the power of Jesus is true. In his frequent visits to Jerusalem He might have been invited to Bethesda. There is no record of such a thing. Now, mark how the story tells:—Jesus, as if conscious of the enmity to be encountered, visited the place *incognito*. Taking pity on a hopeless cripple, He asked him if he wished to be cured. The very person on whom this wonderful miracle of healing was wrought informed on his Benefactor, and brought Him into the trouble that resulted in His death.

The divine consciousness of Jesus has been exhaustively treated in the present age. Consciousness of divinity made Him accept acts of worship refused by the most exalted creatures. Consciousness of divinity being complementary, receives its value from the presence of all the correspondences. It was associated with omnipotence, omniscience, and a life grand and simple beyond conception. His life viewed in connection with His teaching, which in Him were perfectly harmonious, suggests the following summary:—

(1.) He cherished the most exalted ideas of God, teaching the futility of imagining it possible to do anything whereby men could lay Him under obligation to them. “When ye have done *all*, say that ye are unprofitable servants.” Eternal life is a free gift for Christ's sake. The power which Christ claimed to influence the Deity places Him outside of the range of created existences.

(2.) A more conclusive proof of divinity is the fact that eternal life as a spiritual power is represented by Him as having its source in Himself, flowing from Him through the medium of the knowledge of His Person. This is the principal idea of St. John's gospel, and especially of the sixth chapter, in passages whose valuable import has nearly evaporated through trifling discussions about the force of figurative language.

(3.) He taught a religion of the heart, placing it in love to God and men. When questioned by day or by night, His words ever betrayed in Himself a heart fixed on one grand aim—the glory of God in the good of men. From this purpose He never deviated, even in thought.

(4.) Jesus was divinely wise in dispensing benevolences, avoiding everything which could instil the idea that His Church should be an alms-house. On one or two occasions He fed multitudes who were overtaken in deserts. Necessity was His rule in giving. The grand purpose was to endow His disciples with a “sound mind in a sound body,” and thus fit them to help themselves. Here St. Paul derived his principle that if any man “did not work, neither should he eat;" and his injunction that every Christian should " provide for his own."

(5.) Negatively, Christ never interfered in politics, and what is very unprecedented in a religious reformer, never found fault with the amusements of His age. The Jews had as much liberty as they deserved or were prepared for. Discontent felt and strongly expressed is not the only preparation for freedom. Jesus felt that there was no reason why they should be an exception to the providential purpose of unifying the world. By rejecting Him, they refused the only condition of liberty. Nor did He ever attempt to curtail the physical enjoyments of men. He accepted invitations to suppers and weddings, but never in any instance made remarks on the methods chosen for enjoyment. In this He displayed relationship to Him who has filled the heart of every creature with bounding joy.

(6.) Jesus was capable of anger and of burning indignation. If He had not been so, He would not have been man—He could not have been God. Patient with the fallen, His severity was reserved for the self-righteous, and especially for those who zealously jeopardised the salvation of others. His severest maledictions were directed against the leaders of opposition to His divinely-established claims. Through these men, by an influence which tells after eighteen centuries, six million Jews suffer outside the pale of the Christian Church. Christ, by prophetic glance, saw the destruction of Jerusalem multiplied ten thousand-fold by the calamities of long centuries, and the reflections that made Him weep at times filled Him with indignation in the presence of the men responsible for ages of woe. His indignation was divine.

Such historical developments, by illustrating the expansive consequences of wrong-doing, give support to the doctrine of eternal punishment, since retributive justice involves the principle of equivalents. A chief object of the final judgment must be to disentangle and expose all the long-lived and ramified effects of human action, that the justice of an eternal doom may be clearly established. Arrangements that propagate the results of wrong in unending reverberations, proceed on the incalculable enormity of moral evil. In providence the bad effects of sin, where they can be clearly traced, are nothing short of infinite.

As a teacher Jesus was often severe. No other prophet pictured the state of the finally impenitent in darker colours. Preachers owe their most awe-inspiring texts to Him. "Lost;" "Weeping, wailing, and gnashing of teeth," are warnings not of some rude fanatic, but of the great Teacher Himself. With omniscient eye He follows the impenitent soul in its departure from the body, and in eternity traces it up to the Day of Judgment, and finally sees it depart from the last assize into "everlasting punishment." Will gingerly workmen, "who daub with untempered mortar," inform when an "everlasting" that dates from the judgment-seat will end? Overwhelming motives alone are capable of influencing the human mind in some directions; and the majority of men are not governed by considerations of the highest kind. Let all who are interested in the maintenance of order reflect that the mind of a nation is the crater of a volcano not extinct.

In fine, Jesus was altogether unselfish and free from worldly ambition. Unlimited in resources, others absorbed all His care. A few days before His death, compelled by hunger, He appealed to a fig-tree for means to relieve the wants of nature. At the cross, when the soldiers divided His raiment among them, they relieved Him of all His worldly goods. His widowed mother He cast upon the charity of a disciple. This would have betrayed indifference in any but One Who foresaw the future prepared for her by His own celebrity.

Apart from inspired explanation, impenetrable mystery surrounds the death of Jesus. Brave to a degree, He advanced toward Jerusalem in opposition to the advice of His friends, so certain of death that an anointing by a grateful disciple was pronounced by Himself a preparation for His burial. When the expected hour was approaching, almost impatient of delay, He exclaimed to the betrayer, "That thou doest, do quickly." Nevertheless, in Gethsemane His brave spirit quailed, and His sweat was as it were great drops of blood. Surely the authors of these records, so carefully prepared, would say nothing intentionally to compromise their Master. A bloody sweat is not unknown in cases of the intense mental agony of guilt.

The final scene on the cross was unprecedented. Even Pilate was surprised by the speedy extinction of life. "Is He already dead?" It has never been forgotten—and never will be—that suffering wrung from His lips the exclamation: "My God, My God, why hast Thou forsaken Me?" Consciously God-forsaken in His last moments! Surely nothing but the necessity of truth could have made the disciples represent a death by the judgment of God.

It seemed to have been from principle the settled purpose of Christ not to appear to His enemies after the resurrection, while giving them the fullest evidence of the fact. His verdict on a suppositive case of the kind was, "If they believe not Moses nor the Prophets, neither will they believe if one should rise from the dead." The first persons made aware of His resurrection were the Roman guard, and by the guard the Jewish Council. The infallibility of Christ's judgment is seen in this that, while one party gave, the other took, a bribe to deny the fact.

The biographies of Jesus of Nazareth are instinct with real life. They describe a Great Character constantly adapting itself to external relations. Anyone acquainted with the Jewish life of the period must feel that the circumstances are realistic. The writers are circumstantial to an extreme, while the life portrayed is ever determined by the surroundings. Neither the facts nor the doctrines of the Gospels savour of a later age. The opponents of Christ are the Pharisees, Sadducees, and *Herodians,* introduced with a total absence of any purpose to chastise future antagonists. Had the Gospels been written even at the close of the first century, their complexion would have been altogether different. The books of the New Testament stand in succession—a fact conspicuous in the Acts of the Apostles.

The men who condemned Christ were the first to be made aware of His resurrection. By the providence of God, the guards on the tomb were their informers. This secured a long immunity for the disciples. Till another party, irritated by the doctrine of the Resurrection—the Sadducees—came to the front, they enjoyed the full freedom of the Temple.

This part of the argument may be summed up in the following particulars :—

(1.) **The Peculiar Method** by which Jesus necessarily presented the Gospel would have been overlooked in a future age. To a far greater extent than His disciples, He inculcated moral duty, as appears in the Sermon on the Mount. When men had come to Him, the preliminary faith was presupposed, giving Him the opportunity of proceeding at once to tell them what He expected them to do. When Jesus presented the Gospel, strictly so called, having to refer to Himself, He did so as the Son of Man, and in parables, except in the presence of the learned, where figures would have been resented. The good father of the prodigal son represents Christ Himself.

(2.) **"Preaching" in the Gospel Age.**—At a very early date "preaching" in the strict sense became obsolete. It is not at all probable that inventors of a gospel, even at the close of the first century, would have represented the "herald's cry" as the Divine way of announcing the Gospel. The method ceased to be so prominent even in the time covered by the Acts of the Apostles, although St. Paul retained the idea, if not the practice, to a great extent. The "foolishness of preaching" expressed a real conception. No one now considers it a foolish thing to deliver a learned religious essay before an audience; whereas, if the most learned prelate in Europe went to the streets with a "cry" on his lips, he would be "written down" mad. Jonah was an Old Testament illustration of the Gospel method and its results. The story of Jonah has great verisimilitude. If "preaching" were reconstituted part of the ministerial function, there would be many fugitive Jonahs. The cumbrous method of the "Salvation Army" is an attempt to put a substitute for the old divine way of arousing the conscience. A "preacher," in the old sense, with good voice and presence, would do more to awaken thought in a country like India, in a year, than all the missionaries combined have done in three-quarters of a century. As little at the beginning of the second century as at present, would impostors have thought of such a plan. The conception betrays divine originality.

(3.) **Growth of Discipline.**—When the heathen began to enter the Church in considerable numbers, a necessary caution had to be exercised in receiving members. Soon, a long probation and catechetical lectures were in order. By the Apostles, however, professors were received with unsuspecting facility. On the Day of Pentecost three thousand were converted and baptised at one time. At a later date no one could have conceived such a thing. When churches had been established, it was found necessary, also, constantly to inculcate obedience to the pastorate. Except in the later epistles, however, nothing of the kind occurs in the New Testament.

(4.) **Contrast between the Apostolic writings and those of the Fathers.**—The New Testament represents the Faith of the Apostolic Church alone. Almost before the last Apostle had disappeared, important truths had slipped out of the consciousness of the Church. Which of the Apostolic Fathers seems to have had any supernatural knowledge—any knowledge by express revelation, such as was vouchsafed to St. Paul—of the nature, objects, and results of faith, or of the nature, objects, and results of the Atonement? In passing from the perusal of the New Testament to the writings of the early Fathers, the mind is filled with astonishment. To make this position tangible is an easy matter. The New Testament has for ages supplied two hundred thousand interesting texts for weekly exposition by Christian Teachers. Pray, for how long would the Apostolical Fathers supply two hundred thousand interesting texts? No other age except the Apostolic could have prepared a Book which men have investigated ever since, with its depths still unfathomed. The Bible, like the Book of Nature, has an inexhaustible suggestiveness.[1]

(5.) **The Eclecticism of the Gnostics** presupposes the leading gospel positions. They were attracted to Christianity in the days of the Apostles by a supposed accord with their own views. The movement presupposed the following as articles of Christian faith:—(*a.*) The evil of sin. (*b.*) The pre-existent Majesty and miraculous power of Christ. (*c.*) The Incarnation, Death, and Resurrection. A seeming death and resurrection presupposed the reality. (*d.*) The power of Christ to cope with evil in all its forms.

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[1] The visions of Hermas are an example of uninspired Christian parables in the Apostolic ages, and also of what the parables of our Saviour would have been in the hands of an uninspired writer. Studied in this light, the "Visions" are instructive.

The early success of the Gospel.—The Jewish rejection does not disprove the miracles of Jesus, as His bitterest enemies never denied them. They excused themselves by attributing works of divine benevolence to Satanic agency. Their opposition is easily understood. It began among the authorities of the nation, awakened by the overwhelming authority of Jesus. The common people, or those accustomed to the yoke of authority, heard Him gladly. The success of Christianity also would have swept away the Law by which the priests had their living. Moreover, the preaching of repentance to a nation filled with the pride of sacred distinction, awakened unmitigated hostility. But the Messianic prediction did not fail. The opposition of the Jews was foretold. There must be two independent witnesses of divine intervention. Had the Jews accepted Jesus as the Christ, His scheme would have been ascribed to priestcraft.

At the same time Jesus established His ability to fulfil the Messianic programme. Three thousand of the crowd who stood before Pilate, and vociferated for His death, were converted on the day of Pentecost. If they were not His murderers, St. Peter's address was without point. The conversion of Saul of Tarsus, the bitter leader in persecution, at a later date, was also an illustrious example of His power. According to prediction, the progress of Christianity would be gradual, like the working of leaven. Its divine character appeared at once by success where priestcraft and philosophy had failed—among the fallen masses. Particular forms of Christianity prove their quality by the effect produced on the "unequilibrated" multitude.

Except in some of the South Sea Islands, the initial progress of the gospel has always been slow. Its moral demands appear extravagant in the contrast of the non-christian mind. It is commonly believed that twenty-five years were spent in making the first Chinese convert. Strange to say, progress is generally in inverse ratio to the natural intellectual activity of a country. Philosophy becomes the handmaid of religion only when it is forced into servitude by superior illumination. If the intellectual progress of the Augustan age constituted in part "the fulness of time," it was not altogether by preparing the way for the triumph of the gospel, but rather, negatively, by illustrating its power in the moment of victory. Scepticism in none of its forms and in no country can be anything but a bar to the truth. The scepticism of Greece and Rome, like that of all other countries, put up the torpid conscience as the normal type, and required men to accept the crude mutterings of moral death as the ultimate truth in religion. To the Augustan philosopher, Christianity was "*exitiabilis superstitio.*" On the other hand, if philosophy, "so-called," educates the natural mind to laugh at all religion as superstitious—attachment to traditional forms, except in Christian countries, always characterises the unthinking multitude. The common people of the early Christian ages formed no exception. If the scepticism of philosophy reached any portion of the mass, or those above it, it did not fit them for the new religion, but rather deadened the conscience to reject it. God-fearing men, like Cornelius, had little to do with philosophy, whereas sceptics, like Festus, pronounced the faith of Christians "madness."

In addition to superstitious adherence to familiar customs, there existed two barriers to the progress of Christianity—the prestige of the religion of Rome, and the ignominious death of Christ. It was the shrewd instinct of natural reason that dictated death by crucifixion as the surest way summarily to extinguish the claims of Jesus of Nazareth. If the calculation proved abortive, it was by the intervention of facts, not only unforeseen, but superhuman and supernatural. Among the Jews the resurrection communicated an immediate forward impulse to the gospel unprecedented in character. It is not to be supposed, however, that distant and hostile nations would accept the testimony of disciples to the resurrection of a *quasi* criminal, and on account of it adopt Him as an object of worship. In fact, the mere suggestion would rather prejudice His claims, as the general ridicule on Mars' Hill, when the subject was mentioned, proved. Something else was necessary to account for the great accession of converts, vouched for by heathen even more than by Christian testimony. In the year sixty-five "a multitude" of Christians were put to death in the city of Rome, by the instigation of Nero, if indeed he did not set the city on fire to compass their destruction. A powerful factor in the city they must have been, when an expedient like this was adopted to get rid of them. The hatred of a wretch like Nero, is understood in the light of the blood-thirsty conduct of Herodias. In the year 107, Pliny's letter to Trajan affords a still more signal illustration of progress.

The rapid advance of Christianity is made more inexplicable, humanly speaking, by the fact that "Jesus Christ and Him crucified" were more prominent in the teaching of the apostolic Church than they ever have been since. Instead of disguising the fact and method of death, the Apostles made them the chief point in their sermons. The result seems very strange. But if the simple facts detailed in the Acts of the Apostles are attended to, the matter will appear comprehensible enough. Wherever the Apostles came, the prejudice against Jesus was at once removed by the tremendous evidence of His Divine Presence. "In the Name of Jesus of Nazareth" was a talisman by which the worst forms of human disease instantaneously disappeared. At once He became accepted by the grateful convalescent as Divine, the revulsion of opinion being sudden and complete, which accounts for the fact that Jesus Christ was far more prominently the object of worship in the apostolic age than ever since.[1] "They sang an hymn to Christ," Pliny says. The very faith which the Gentiles cherished in divine-human appearances, reflections perhaps of the prophetic announcement of the

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[1] It is not supposed, however, that the life of the early church was created by miracles alone. The Head of the Church always co-operates powerfully with powerful instruments.

Incarnation, helped them in the full acceptance of the truth. It is highly probable that the vast majority of early converts were men and women who had been freed from incurable maladies, together with their grateful relatives. A Being with so much virtue in His name, must have been crucified unjustly and for some great providential purpose.

It was in harmony with the fact of miraculous endowment that no pecuniary provision was ever made for the first missionaries of the cross—a fact sometimes advanced by the ignorant for a sinister purpose. Men who could give sight to the blind, hearing to the deaf, and health to the feeble, could go forth anywhere "without money in their purses" (Acts xxviii. 10).

When the writings of the New Testament are compared with those ranked as spurious, their unique character becomes apparent, and the sound judgment of the Early Church endorsed by those endowed with any reasonable measure of the critical faculty. In spite of characteristic differences the New Testament, like the Old, betrays a marked unity of style and of doctrine. Petrine and Pauline antagonisms are the product of a "consciousness" inspired by no friendly leanings to a Book, written by several authors indeed, but harmonious in its views, and lofty in its purity above other books. As a matter of fact, St. Peter was the apostle who began to preach the gospel in a form adapted to the Gentiles. The Epistles of St. Peter might have been written by St. Paul, and so far from condemning, they actually endorse "all" the writings of the great Apostle of the Gentiles. Jewish dissensions would have occurred in the early Church had St. Peter never been born. Nor is it remarkable if multitudes were unwilling to forsake institutions established by the sanction of divine authority; and especially when there were doubts in the minds of all about the extent to which reformation should be carried. None of the Apostles imagined that by becoming a Christian he had forsaken the Church of his fathers, nor that the framework of the Jewish Church was unworthy of preservation. St. Paul was taken prisoner while performing a vow in the Temple at one of the annual commemorations. They one and all seemed to aim at a reformation in which the altar would be replaced by the Cross, and the synagogues occupied by a Christian ministry. This is the legitimate interpretation of their whole conduct. Had the Jews as a nation embraced Christianity, there is not the slightest reason to believe that the revenues devoted to religion would have been alienated or extinguished. Church reformers, especially those who create new sects, are commonly more distinguished as Church financiers than as theologians. The Apostles avoided Church finance, not because the subject could be ignored in Christianity, but undoubtedly with the intention that the conception of the reformed Jewish Church should be the model of all Churches. This point involves a relation that cannot be overlooked in a work on Theism, however brief. The Being who inspires a sense of property must cherish His own rights as the Proprietor of the world. By providential arrangement, corporate society burdens itself with the duty of enforcing the civil rights of individuals. Is it possible that the Creator has less of *legal right* in His own world than any individual in it?—in other words, has no *legal* proprietary right? When a large minority in any country ignore the claims of the Creator, the mischief is not repaired if the deficiency is made good by the liberal few. When the State neglects its duty as the Trustee of the Proprietor, religion becomes an exotic plant, kept from expiring finally by the artificial processes of revivalism. On the other hand, enforcement of divine rights by the State fixes attention emphatically on the existence and proprietary rights of the Deity, and thus becomes one of the mightiest instruments of religion.

Taxation for religion has never been carried out to the extent sanctioned by Scripture warrant. The result has been very disastrous, especially in large cities. Men learn to value what is enforced by the united wisdom of society, especially when respect is paid to religious prepossessions and legitimate tastes, which must be allowed their exercise in freedom.

The history of St. Paul throws light on the age of at least two of the gospels. When called to preach, he refused to be indebted for information to the authorities of the Church. Pride would forbid it. As a scholar he would appeal to books. By his own statement he obtained his knowledge of the gospel from the revelation of Jesus Christ. The gospels are not histories so much as revelations. A history is a book of opinions sustained by evidence. The writers of the gospels express no opinions, simply photographing the manifestations of their Master. St. Paul obtained his knowledge either from the field notes of St. Matthew, or from his Greek gospel, which had been recently published. By not considering himself man-taught he evinced his faith in the inspiration of that gospel.

By easy equations it would be possible to construct a Gospel out of the writings of St. Paul; perhaps a keen critical instinct might detect in them the peculiar forms of St. Matthew. The study of the Epistles to the Corinthians with this view will yield improving results. The date of St. Luke's gospel can also be fixed approximately. The book of The Acts ends abruptly before St. Paul's trial by Nero—probably in consequence of the death of Luke. His gospel had been completed before the composition of the "Acts" was begun. Without equations the epistles of the New Testament could be almost constructed out of the express language of the Apostolic Fathers.

In addition to the well-ascertained writings of St. Peter and St. Paul, four books give the New Testament a rounded completeness—the Epistle to the Hebrews, by expounding the meaning of the ancient rites; the Epistle of St. James, by inculcating the practical nature of gospel "faith;" the First Epistle of St. John, by expounding the principle of obedience; and The Revelation of St. John, whereby the New Testament, like the Old, ends with extensive forecasts of the future, indicating a divine unity of plan.

Two great outbursts of miraculous influence took place in different ages. By arrangement, one was in

Egypt, the fountain of learning; the other in the Roman Empire, in the Augustan Age. The great Author of miracles knew the importance of investigation, and courted it. In the presence of the one fact, that neither the Jewish nor Heathen opponents of Christianity ever denied the miracles of the New Testament, but endeavoured to present offsets to them; in the presence of the other fact, that before the lapse of four centuries the Roman Empire had become Christian—the carper at the evidences of Christianity is not aware how small he looks. If a worldly people like the Romans forsook their gods, yielded their cherished national sports, and devoted one day in seven to celebrate the triumphs of a crucified Jew, all generations of men to the very last may safely rely on the fundamental facts. A system of religion that has led the civilisation of the world for ages, and still continues to lead it at the close of the nineteenth century, cannot possibly have originated in falsehood and superstition.

DEDUCTIONS.

In nature everything accords with the teaching of the Book of Genesis. Marks of Mind on the elementary materials of the world demonstrate Creation. If inorganic matter never becomes organic, and organisms never pass into alien forms, then living structures were organised by the Creator, and succeed each other "after kind." The framework of the earth by its purposeful conformation evinces control in its establishment; and there are not wanting very convincing indication of Floods. We now point out additional facts that sustain positions more strictly evangelical:—

(1.) **The Lawgiver stands above his own Laws.**—The fixed departments of nature have occupied attention rather than those which betray lawlessness, instead of law. Throughout large domains the movements of matter are regulated and fixed; in others the greatest irregularity prevails. The forces by their correlation produce a multitude of beautifully coördinated and fixed results. At the same time, nature does not everywhere move with the regularity of clockwork, the variations appearing in cycles, and thus betraying natural causes. It is impossible to forecast the direction and force of the wind, beyond twenty-four hours in advance, and not even then without the risk of failure. The uncertainty of the weather is so familiar that its exceptional character is unmarked. The bodies which constitute the solar system return in cycles to the same relative positions, and corresponding atmospheric cycles might reasonably be expected. All attempts to detect such cycles, however, have failed —a fact that properly suggests to religious minds the possibility of interference by superior beings. Much has been said in the present age about "Law," as of something hidden from the duller intellect of former generations. On the contrary, the major operations of nature were as patent to our ancestors as they are to ourselves. If they did not discover fixed laws in the element in which they lived, moved, and had their being, neither can we. Annual forecasts are as liable to make the "weather prophet" an object of ridicule, as they were two thousand years ago. In nature, as in a building, there is an immovable framework, but there are also parts made to be moved. There are "windows in heaven." The motion of the heavenly bodies is fixed; the clouds are curtains which the Proprietor moves at will. When inspired writers declare that He does move them, denial is assertion without a shadow of evidence. The instability of atmospheric phenomena gives large sanction to Christian Teaching on the answer to prayer.

The physical cause of motion in atmospheric changes is undoubtedly in the sun. The perpetual solar fires must be maintained by bringing the unburnt materials of the nucleus to the surface. Like other fires, the sun-fires need to be stirred. When large amounts of the raw material of heat and light are brought up, they appear as "spots." As there is no known law by which cold matter can be brought to the surface from the unfused depths we probably stand in the presence of immediate divine action. In the same sphere, the supernatural was encountered in explaining the formation of the earth's crust. As the moon is a perpetual illustration in the school of nature of the reign of law, the sun is probably an illustration of what law can *not* do.

(2.) **Divine Intervention in Human Affairs.**—The Atmosphere is one department in which the Divine Being operates in governing the world. There are other two—those of life and of mind. He controls life and death, and the free-will of every creature, and in these spheres also there is the same exhibition of law and lawlessness. Uncertainty always hangs about the destiny of germs. The Hebrew writers call God the Father of Spirits. In presence of the claim, wise men are silent, because the cloud in which the subject is enveloped, may be the mysterious darkness in which the Great Operator delights to hide Himself. In the region of Mind the relation between the law of suggestion and the suggesting mind, and between thought and its legislative and executive decisions, has not been so exhaustively determined as to exclude the possibility of interference by other minds. Uncertainty marks every region in which providential action is claimed. Did interference not take place, is it not probable that the fixity characterising other departments would be found in these also? That vital and other statistics are comparatively uniform, does not necessarily exclude divine interposition. A Being who delights in fixed rules will guide Himself by rule in His isolated acts. Interference in the atmosphere is perfectly consistent with an equal annual rainfall. The uncertainty will connect itself with the times of precipitation. In like manner, a fixed number of births and deaths is consistent with providential determination. In a time of threatened pestilence, a number of years ago, considerable amusement was created among the thoughtless by an answer given to Christians who requested the authoritative appointment of a day of fasting. They who undertake to laugh at the faith of Christians are in danger of becoming objects of ridicule themselves. If the germs of an epidemic find their way into the atmosphere, He Who controls the winds can limit, or expand, or direct the evil. Only by extending sanitary regulations to all the localities where epidemics are born, can they be uprooted.

(3.) **The Existence of the "evil one."**—Interference in the human mind by malignant spirits is especially obnoxious to the thinking of the present age. Whether ideas adopted from foreign countries sanction or not, true science does not sanction this tendency. It is impossible to comprehend the philosophy of the history of a single day without taking such influence into account. We meet everywhere the plain fact—not that men do ill only, but that they do incomprehensible things, involving intense folly as well as wrong. Where the inspired writers postulate malignant influence, it is the only explanation. The Fall and the Betrayal may serve for illustrations. The explanations worked into the narratives afford the only possible philosophy of the subject. For ages men have puzzled themselves to excogitate a natural explanation of such strange actions. The best explanation ever to be found is the one given, viz., that "the devil entered into" them. The assassin of the late president of the United States had little doubt about his inspiration. Nor had many others. He only mistook the person. Deeds are done every day that reveal malignant spiritual influence, as really as disturbance in the motion of a planet has sometimes revealed the influence of an unknown body operating from the distant heavens.

(4.) **Personal Revelation a Necessity.**—The Universe is the Titanic effort of a Spirit to reveal himself. The result, grand as it is, may not obviate the necessity of other efforts. Beings in existence at the commencement of the present order of things, who witnessed the panorama of miraculous effects, have evidence of a Deity not possessed by those who only see results, and who become so familiar with them before the reasoning powers are awakened, as to mistake them for the absolute. That men deny God is an open proof of the need of further light. The force of habit is an obstacle that frustrates the object of creation, and makes a breaking in on the course of nature necessary. When Moses presented himself to Pharaoh in the name of Jehovah, Pharaoh knew no such person. Such ignorance in the greatest monarch on earth made the miraculous plagues of Egypt a clamant necessity. Miracles demonstrate a power outside of nature, able to operate on it, and therefore reveal God. A Being Who created a Universe to make Himself known will interfere to make the purpose effective. A miracle is merely supplementary. Even incarnation is not an incredible thing; nor has it appeared so to the normal human mind. The gods of the ancients were often represented in human form. Manifestation of a Spirit by effects alone may fail to produce a permanent conviction of His existence—have failed, in fact. Some method of personal revelation is neccssary. To effect this, He must assume form. The compound nature of man affords a model and a method. Man is a spirit, revealed in another nature. Miracles worked by a Divine Being in human nature, in His own name, reveal His divine Personality. The inhabitants of a heathen city felt a presentiment like this when they called Barnabas "Jupiter," and Paul "Mercurius." It is remarkable that the "fishermen of Galilee," when resolving to represent God Incarnate, should have been able to seize the grand peculiarity of divine action, and carry it so consistently through the life of Jesus. In the histories, He is ever presented as operating by simple fiat. "He said," and it was done. It was His peculiar mode of action that gave surpassing dignity to the life of Jesus of Nazareth. If His disciples believed Him to be divine, they made, at least, no mistake in carrying out the idea.

(5.) **Undesigned Evidence.**—In the form of an omission, the Gospel narratives exhibit an undesigned evidence that may be worthy of notice. The silence of contemporary history on the miracles of the New Testament has often received attention: the Gospel histories are silent in a direction equally remarkable. Modern physicians have peradventure received as much benevolent impulse from Christianity as any other class of men. The physicians of the Gospel age were utterly unscrupulous and selfish. It was no exceptional thing to exact remuneration — not only when their prescriptions did no good, but when they had resulted in positive harm. The evangels tell of poor people who had spent "all their living on physicians" for years, and were nothing better, but rather grew worse. Such unprincipled exactors would be the natural enemies of a man who took their bread from them by drying up the sources of their unjust gains. The achievements of Jesus would be watched with jaundiced eyes for indications of failure or imposture. Unexpectedly, the physicians are silent. All other guilds are represented as, sooner or later, meeting Christ in open hostility; the class that included the best judges of His miracles remained silent in the background. The cures effected were so real and overwhelming that the whole medical world of the day was struck dumb. The omission of any reference to the physicians, in each of the four Gospels would scarcely have suggested itself to impostors of after-days in attempts to magnify a hero. It is the more noteworthy in men who seemed to take delight in picturing the opposition which He met and overcame. One solitary physician comes to the front, and reports himself. It was he who wrote one of the Gospels and the book of the Acts. Luke was a very proper judge of miraculous cures.

(6.) **The Principles of Atonement Universal.**—There is no reason why Incarnation should be considered an incredible thing. The Deity might become incarnate in the way of assuming an incognito. It is the objects contemplated that create the strain, especially an Atonement. Yet atonement is not a foreign idea imported into the range of thought by the Hebrew writers. Human life is full of it. In the atonement, the Divine Being simply avails Himself of a law of nature to work out the objects of its laws. At the very dawn of existence, we associate physical penalty with wrong. With evident intention, society is so constituted that the innocent must suffer for the guilty. Wrong, in its very essence, is that the guilty involve the innocent in suffering. The murderer is guilty—the murdered innocent. If the guilty could exhaust the penalty of his own crimes, how very unjust the constitution that extends the consequences to others! The sins of a parent bring disgrace and suffering on all who partake of his blood. The solidarity of the family may be wrong in principle; nevertheless, it is nature, and involves the fundamental principle of atonement. It involves two ideas: First, that the sufferings of a criminal are not adequate to meet the demands of natural justice; second, that others may be seized and compelled to share the penalty. The crime of the first sinners of mankind has spread itself over the race. It seizes every child of man as he enters the world, demanding satisfaction from him. When the Son of God became man, He entered into the solidarity of the human family, thus placing Himself in the sweep of the avenging justice that has filled the world with woe. The Divine Being in human nature is the King of men, and as such, their head and representative. His overwhelming personality, surpassing infinitely in greatness the personality of the combined race, submitting to obedience and death, satisfied the demands of justice.

The statement contained in the last sentence impinges on a subject disputed among Christians, and makes an explanation necessary. In the conception of the inspired writers, the atonement was universal in some respects. The Incarnate nature is the nature of all men.

One of its grand achievements is a general resurrection from the dead. The sentence which consigns men to the grave would keep them there There is no adequate reason for a general resurrection other than a general atonement.

On the other hand, the inspired writers represent the Atonement as limited. Like many precious things, the Atonement has a shell and a kernel. It has two qualities, giving birth to two powers—physical and spiritual. To Jesus, His crucifixion was the symbol of rejection by Jews and Gentiles. In His last hours, His mind naturally reverted for consolation to His followers—those who had believed and who would believe. In them He saw joyfully that His sufferings were not in vain. Amid a seething mass of mocking enemies, the present acceptance of Him by many, and the ultimate acceptance by multitudes, would be the grand sustaining source of consolation. His interest and purpose would be centred on the faithful of the ages. His last prayer confirms the surmise. Perfect in knowledge as in Piety, His thoughts revert also to the origin of faith, and in gratitude to God He speaks of believers as those who had been "given Him." Thus, one of the Old Testament types was fulfilled. The High Priest, when presenting the blood of Atonement, wore the breastplate, on which were engraven the names of the Tribes. On the priestly heart of Christ, in His dying hours, were engraven the names of the Israelites indeed of every age. In this way the statement was fulfilled, "I lay down my life for the sheep."

(7.) **Society has its Root in the Divine Nature.**—Society is the most iterated idea in the world of life. From the smallest to the largest, all creatures live in society. This gregariousness has its origin in the mode by which living beings come into existence. A dependent life must be a social one. The universal interdependence of living natures is evidently an expedient to create societies. The social life of nature is ground for a legitimate inference as to the nature of God. A solitary being would impress his loneliness on everything he made. Isolation would be the law of the universe. To be happy, an isolated being must be without social affection. A Being with infinite social characteristics, living alone in eternity, with no coequal object to fill His affections, would be infinitely miserable. Society being the order of nature, must be the law of the Divine Nature. A Being Who does not make a living creature anywhere except in society, must be a Society Himself.

In his addresses to the primitive Irish, Saint Patrick aptly employed the three-leaved clover to illustrate the Unity of Nature and Plurality of Persons in the Deity. The principle might have been generalised. The majority of living substances start into being in unity, and then branch into plurality. A fact so common must have its root in the fundamental relations of being. The suggestion is sustained by inspired statements. One at least of the Divine Persons is denominated "The Branch," undoubtedly, in some instances, to mark His relative position in the Divine Essence. Sometimes this Person is described as the "Arm," and at other times as the "Hand" of Jehovah. These members are of the nature and are in the solidarity of the human body. The Son of God is of the Nature and is in the solidarity of the Divine Essence, eternally begotten, but begotten every moment because occupying an unchanging relation: "This day have I begotten Thee."

Because JESUS CHRIST is Divine as well as human, the Gospel can be put to the test by experiment. The real ground of conviction, in the case of every true Christian, is experience, and not an uncertain logical process. If he employs logic, it is to show that reason is consentaneous with faith. When Nathaniel expressed a doubt whether any good thing could come out of Nazareth, Philip did not argue the case with him, but simply said: "Come and see." If Jesus is Divine as well as human, He is as near to all as He was to the disciples on the shores of Galilee. We say to all doubters, in like manner: "Come and see!" In His own conception Christ is a Vine, ramifying throughout the earth, and coming into contact with the "living branches" everywhere, inspiring the vigour of a new and happier and nobler life, the Foundation of a Temple whose corner stone was laid in Eden, whose four walls embrace the ends of the earth, and into whose superstructure the great and the good of the ages have been placed as living stones. Other foundation of restful comfort can no man lay. The conditions of Salvation He has made "easy" to those conditioned to receive it. He came to save "the lost," or such as are wandering in conscious separation from the Spiritual Centre, depressed by the associated sense of guilt and misery. He presents

Himself as at once the Reconciliation and the Reconciler, by meeting the demands of the guilty conscience, and by being in Himself the Divine Attraction. Let the weak, and the burdened, and the weary put Him to the test. When honestly made, the experiment never fails of success. The Humanity of Christ is the meeting-place of God and men. Prayer to the Father is accepted only when directed to Him as in Christ. St. Augustine called special attention to this fact,[1] establishing his view by quotation from St. John xiv., "I am in the Father, and the Father in Me." "He that hath seen Me, hath seen the Father." "I am the Way and the Truth and the Life; no man cometh to the Father but by Me." "I and the Father are One."

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[1] St. Augustine Confessions.

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